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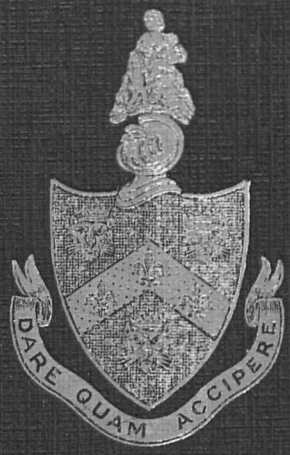

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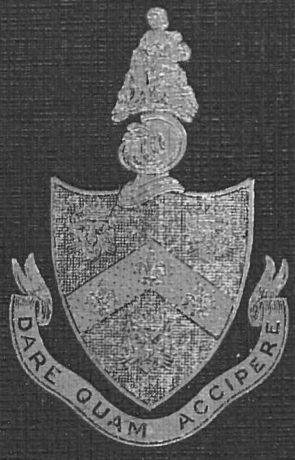

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PASSIM

THERE is something exceedingly solemn about the New Year. The faces we see about us are set and grim for reasons other than mere mental and facial effort to forget the indiscretions and vicissitudes of Christmas. Their owners are making new resolutions. The heavy smoker will limit himself *this* year to five cigarettes before breakfast, the too ardent theatre-goer will not patronise the drama more than once a week now, the bridge fiend will only play after lunch in future, the Resident will not grumble when his breakfast is cold at 11.30 a.m., the vain junior pro. will only attend the beauty parlour in the Home on alternate days now that a new year has begun. On all sides we see new leaves being turned, socks being pulled up, grey stockings worn, fresh coats of paint bespattered and new purposes in life resolved. Everywhere the desire to better conditions, to raise the standard of humanity, to render existence more beautiful, to enable good to triumph over evil, to point the way to health of mind and body, and to make the grass grow in the Park is evident.

When we receive cards wishing us a "Happy and Prosperous New Year" we know quite well that they are really sent as gentle reminders that we must take this change in our life seriously in hand. No more slovenly out-of-date last year methods, no more satisfaction in doing a thing merely as well as it has been done before. There must be progress, improvement, elevation in all we do. Chests must be percussed with increased vigour, blood-pressure registered with added accuracy, "blue tickets" observed with greater regularity, and dressings done with more diligence. To give proof in black and white of this new energetic outlook diaries are sometimes actually bought and paid for, and when the daily entry ceases to become obvious, as it usually does, towards the middle of February, is the reason due to lack of stamina, to self-disappointment in an inability to maintain the new high standards? Certainly not, decidedly no. The great open diarial spaces bear witness to the fulness of the new existence, to the great speed at which life flows, allowing no "time even to make a song about it."

WE have been asked to give one final reminder to all those who have not yet bought their tickets that the Residents' Ball occurs on Thursday next, January 17th, at the May Fair Hotel. All particulars may be found on the notices scattered over the Hospital. It appears that this ball is likely to be an exceptionally good one, and we urge all those who have not been to a Residents' Ball before not to miss this opportunity of adding to their store of enjoyable things, and all those who have been before to seize with both hands the chance of going again. Furthermore, it must not be thought that admission is limited to the Staff and the Residents. All members of the Hospital and Medical and Dental Schools and their friends are very welcome.

OUR dramatic expert tells us that the Annual Residents' Play is threatening to occur on February 5th, 6th, 7th and 8th in the Physiology Theatre. No further details are yet forthcoming, but most interesting rumours are abroad as to its author, its title and its plot. More will be heard of this venture in our next issue.

THE following have been elected Clinicals for the period January 16th–April 16th, 1929:—

Mr. J. B. Blaikley.
Mr. F. E. Camps.

Mr. R. Glanville.
Mr. C. H. Johnson.
Mr. N. E. Pitt.
Mr. J. B. Robinson.

SISTER OUT-PATIENTS wishes us to express her gratitude to all those who sent gifts for distribution at the Landon Tea. If noise be regarded as any indication of joy in the Borough child, we can vouch personally for the complete and overwhelming satisfaction of every member of the youthful swarm surrounding the tree on Christmas Day.

Now that most New Year resolutions are safely broken, we venture a timely reminder regarding annual subscriptions to the GAZETTE as being more likely to escape surrender to that moral despair which invariably follows the utter rout of all the self-imposed regulations doomed to failure from the very start. We suggest that even if you *have* fallen yet again from your brief estate of no cigarettes or alcohol before lunch, the prompt despatch of cheque or postal order to the Counting House will ensure that restoration of self respect which comes of not putting off till to-morrow what may be done to-day.

WE have pleasure in reporting that the sale of greeting cards supplied by Ash & Co., Ltd., has reached the gratifying amount of £103 17*s.* 4*d.*, to be handed to the Hospital funds without deduction, and would heartily thank those who have contributed to this result by purchasing the cards.

THE subject of food so soon after Christmas may be distasteful to some, but we would like to take this opportunity of reminding GAZETTE readers that the food in the College has now lost its point as a joke, and that it is not only possible, but actually easy, to get a really good meal there. We are informed by dietetic experts that the lunch obtainable for the modest sum of 1*s.* 4*d.* is positively bristling with food value, and is attractively served. We strongly recommend those who have not been in the habit of taking their nourishment in the College to start the new year well by getting a new habit.

Lessons of the Cancer Conference, 1928

A Clinical Lecture by W. H. Ogilvie, Esq., F.R.C.S.

GENTLEMEN,—Cancer presents one of the most urgent problems confronting the world to-day. It is a problem of such magnitude and so diverse in its aspects that it is quite beyond the power of any single man to ope with it; a problem whose final elucidation can only come from the concerted work of many experts working in quite different fields of research. Such work is being done in laboratories all over the world, and has already produced results of the very greatest value. It is, however, extremely difficult to gather from a mass of scientific publications, most of them of a highly technical nature, any clear idea of the progress which is being made, or of the direction in which that progress is tending. Cases of cancer are usually sent to the surgical wards of a hospital, and therefore it is the surgeon above all others who must keep abreast with the studies which are proceeding in every country concerning the ætiology and treatment of the disease, and make some endeavour to correlate such facts as emerge, both for his own guidance and for the benefit of his patients.

I myself can claim no expert knowledge on the subject of cancer, but I was fortunate enough to attend the Conference which was held in London in July 1928 under the auspices of the British Empire Cancer Fund. As several meetings were taking place simultaneously on each of the four days during which the Congress was in session, I was naturally able to hear and see only a small proportion of the discussions and demonstrations which took place. However, the proceedings of each section were printed for the benefit of the delegates, and I was therefore able to gather a great deal of what took place at the sessions I was unable to attend. I propose to put before you to-day some of the more important conclusions which appear to emerge from this Congress.

Quite apart from any new work which may be reported, any such gathering has a value of its own in bringing together men from different nations, and in the general exchange of opinion and diffusion of ideas which takes place. What is good becomes widely known to many who might as yet be unaware of its existence. What is unsatisfactory is unable to survive the light of

public discussion. In all branches of cancer study such an interchange of ideas provides a new common level from which fresh advances can start. To quote one aspect alone, the majority of surgeons who saw the results of radium applied by modern methods, and heard the discussions upon this work, were entirely convinced. During the first two days, £50,000 worth of radium was ordered for various hospitals as the direct outcome of these meetings.

ÆTIOLOGY

It is perhaps more difficult in England than in any other country to get at the true facts about the incidence and alleged increase of cancer. It is the fashion of the daily press to publish at great length the views of cranks or society ladies and to jeer at the results, or rather lack of results, obtained by experts. After all, it is very much easier to produce a theory than to produce a fact; the theory is apt to be more beautiful, while only those with expert knowledge can see its fallacies.

There are several such theories about the cause of cancer which are constantly recurring, and therefore deserve some mention. The first is the view of cancer heredity. Nearly everybody is familiar with instances of families in which numerous cases of cancer have appeared over several generations. In laboratory work strains of experimental animals have been bred in which the incidence of cancer is high, and certain types of cancer tend to appear with great frequency in animals developed from one stock. However, there is no evidence of a scientific character that it is ever hereditary in man or in animals raised under natural conditions. It must be remembered that cancer is a common condition and that it becomes commoner as age advances. If, then, in examining any supposed instance of cancer heredity we take into account the laws of chance, and also allow for the fact that in families which are long lived, the incidence will naturally be higher, we find that the evidence for heredity in cancer falls to the ground.

Another view commonly advanced is that there are cancer villages or cancer houses, the inhabitants of which suffer in a high degree from the disease. Once again, if the evidence in support of this view is sifted it is found to be unreliable. Two factors must be eliminated—those of longevity and of occupation. In any town where the death rate from other diseases is a low one, the death rate from cancer will *ipso facto* be a high one, because the inhabitants survive longer. Similarly, any health resort to which old people retire to spend their declining years in pleasant surroundings will show a high incidence of cancer. Again, the work of the inhabitants in industrial towns may predispose to occupational cancer.

A theory very commonly voiced in the press to-day is that cancer is caused by some error in modern diet. The two views most commonly expressed are that the cancer-causing factor is the presence or the excess of meat or a deficiency of vitamins. The influence of diet has been investigated by Greenwood and Copeman, who examined the figures relating to certain religious communities in which meat is entirely excluded from the diet. They found that in these communities the incidence of cancer was no less than in that of the general population. A view very commonly expressed both in the lay and medical press is that cancer is almost unknown among primitive peoples, while it is increasing among civilised races. The first statement is often used to support the theory that cancer is due to an error in diet. Now, while it is probably true that primitive races suffer less from cancer than civilised ones, there is not enough positive evidence to form any basis for argument. In such races the average duration of life is short; the old are either killed or perish in the struggle for existence, so that not many survive to the age of probable cancer, while of those that contract the disease the majority die before clear symptoms have appeared. Then, new growths are not likely to be diagnosed under primitive conditions except those upon the surface in accessible situations. For such surface tumours the majority of savage races have traditional cures of a drastic nature, and very few of them are actually brought to European hospitals to be seen. It may be said in general, that the more that is known about any primitive people the more nearly does the incidence of cancer among them approach to that of civilised races.

If the view that cancer is on the increase at the present time is investigated, even this statement is seen to be extremely doubtful. When the available figures are subjected to expert statistical analysis, they appear in a very different light. Shearer compared the certified deaths from cancer in 1925 with those over the five years period from 1901 to 1905. The cases were divided into two groups—patients under 65 and patients over 65. In the first group, those under 65, he examined separately the figures relating to four distinct types of cancer:—

(*a*) Cancer of the intestines, larynx, lungs, pancreas and urinary tract; that is, those situations in which facilities for diagnosis have immensely improved during the last 20 years;

(*b*) Other types of cancer.

Two smaller divisions were also examined :—

(*c*) Buccal carcinoma in the male ;

(*d*) Cancer of the female sex organs.

These two groups stand apart in that the diagnosis is fairly obvious, not only to the doctor, but to the patients themselves.

In patients under 65 the total increase in deaths from cancer in the 25 year period was 21 per cent., including cancer of all types. In group *a*, the group in which methods of diagnosis had improved, the increase was 125 per cent. In group *b*, the remaining cancers, the increase was only 1 per cent. In group *c*, buccal cancers, there was a decrease of 10 per cent., and in group *d*, cancers of the female sex organs, there was a decrease of 5 per cent. over this period. Thus, it becomes quite evident from Shearer's analysis that the increase of cancer deaths since 1901 is, in the group of cases under 65, apparent and not real, the apparent increase being entirely due to improved diagnosis in cancers of certain types. In the group over 65 an increase of cancer deaths was again found. However, after correcting for the increase due to improved diagnosis as in the first group, the real increase in cancer deaths was very much less than the decrease in deaths from old age and debility. Thus, the greater number of deaths from cancer in patients over 65 appears to be due solely to the fact that more and more patients are living into the age in which cancer becomes really common.

In considering the ætiology of cancer we must recognise that there are probably two causes at work in any particular case—the predisposing cause and the actual exciting factor.

Among predisposing factors, the influence of chronic irritation has been proved beyond doubt. The first instance of the experimental production of cancer was when Fibiger of Copenhagen succeeded in 1913 in producing carcinoma of the stomach in rats by feeding them on cockroaches. These cockroaches were found to be infected with the larval form of a parasitic worm, and in belief that this worm was the cause of cancer Fibiger gave it the name of Gonglynema Neoplasticum. The incidence of carcinoma of the stomach in rats fed upon these infected cockroaches was 50 per cent. as against 0.1 per cent. in normal animals. It was decided later that the cause of the cancer was an irritant toxin produced by the worm. This view led to the investigations of the carcinogenetic properties of various irritants, and, in 1915, Yamigiwa and Ichikawa discovered the efficacy of coal tar and various derivatives of coal tar in this respect. The tars derived from coal from varying sources, and the separate products of the fractional distillation of tar, vary very greatly in their power to produce new growths. It is of interest to note that the products of combustion of tobacco do not produce carcinoma in laboratory experimental animals, and probably therefore are not effective agents in doing so in man. While the many substances producing cancer in animals are irritants, it by no means follows that all irritants produce cancer.

Tar cancers are usually produced by painting repeatedly an area of shaved skin with the tar. There is considerable latency about the appearance of the cancer, and the length of application rather than the age of the animal appears to be the most important factor. If tar has been applied for some time and then discontinued, the cancer may nevertheless appear several weeks later. If one of these cancers is excised, the animal is henceforward immune from the production of fresh cancers by further applications. Where no cancers develop after tar applications, they may often be made to appear by slight injuries to the skin, which would in themselves be harmless.

Cancer may be produced in man by the chronic irritation of an infection, either by a parasite, as in bilharzia of the bladder, or an ordinary septic organism, as in the case of chronically infected teeth, giving rise to epithelioma of the tongue.

Many instances are known of occupational cancer. In most of these the cancers are cutaneous, and are due to the repeated application of an irritant connected with the patient's work. Cancer of the scrotum is common in chimney sweeps and in mule-spinners, men who mind machines in the cotton spinning factories. Chimney sweep's cancer is caused by the application of soot, and it appears that it is only British coal which is at all liable to have this effect, the Continental sweep rarely contracting the disease. Mule-spinner's cancer is due to the application of mineral oil ; it was unknown when sperm oil was used to lubricate the machines. A similar cancer is seen from time to time in garage workers and others whose clothing is constantly soaked in lubricating oil. Sheep dip workers are liable to carcinoma of the hands, arising from the effects of arsenic. Multiple cutaneous carcinomata frequently appear in workers with radium or X-rays, and a similar effect may be produced by the long-continued action of intense sunlight, as in the case of agricultural labourers in the Alps. Lastly, the workers preparing aniline dyes are especially prone to develop carcinoma of the urinary tract.

The main problem which has to be decided with regard to the exciting factor in cancer is whether this stimulus is parasitic in the widest sense of the word or biological.

It has already been mentioned that statistical investigation tends to discredit the theory of infection. Laboratory evidence, and the general opinion of workers in this field, is entirely against the existence of a universal cancer parasite. Two years ago Gye and Barnard, working with the Rous fowl sarcoma, believed that they had isolated an ultra-microscopic virus of the nature of a micro-organism. This virus, in conjunction with a specific factor of a chemical nature, they believed to be the cause of cancer. Their work attracted a great deal of attention at the time, but subsequent attempts by other workers to confirm these experiments have failed, and the existence of the virus appears to have been discredited by some recent investigations of J. B. Murphy of New York, which were brought before the Congress. A general belief has been expressed that the exciting cause of cancer is a biological substance formed in the body. An agent of this nature has been isolated by Murphy from normal chicken tissues, and a similar substance has been produced in this country in the laboratories of the Cancer Hospital. It may be said, then, that for the time being at any rate the infection theory of cancer production is entirely discredited.

DIAGNOSIS

Evidence from many different sources all combines to show that cancer in its early stages, and for a long time afterwards, is an entirely local disease, limited to a small amount of tissue. In this stage it can, in 80 or 90 per cent. of cases, be cured by thorough removal, with no chance of recurrence; unfortunately, in this stage also it is entirely symptomless, and is unlikely to be noticed unless it occurs in some very obvious situation.

It can be realised therefore that the discovery of any diagnostic test which would allow the presence of cancer to be recognised in its early or curable stage would go far towards solving the question of treatment. Innumerable tests, chiefly involving chemical changes in the blood or serum, have been described, but none of value have yet emerged; they are either unreliable or else they appear late in the disease. Careful clinical examination still remains the chief hope of early discovery of malignant growth. There is a tendency in America for some of the large insurance companies to insist upon a periodical overhaul of insured persons who have passed the cancer age, that is 40, and there is no doubt that by some such routine very many cases might be discovered in time to allow of curative treatment to be instituted.

TREATMENT

Lead—

The discussions upon the use of lead in the treatment of malignant disease which have appeared from time to time in medical journals have led to a certain amount of recrimination and accusations of prejudice have been made. It appeared to me, as an onlooker, that all the speakers who contributed to the debate on this subject at the Congress had approached the problem with an open mind. They had accepted Blair Bell's pioneer work at its face value, and had attempted to repeat and amplify his experiments and to put them to the proof by clinical tests upon cancer patients. On the whole, the results of many workers in different centres and different countries have been entirely against the lead treatment. The absence of confirmation in the animal experiments was especially striking. There appeared to be little evidence in animals that lead has any effect upon tumours except in doses which are highly toxic to the animal. There was also little evidence that more lead was found in the tumours than in normal tissues, and most of it was found in the liver. From the clinical point of view there was no evidence from independent investigators that any considerable number of patients had benefited from the treatment; indeed, the results of its trial in several clinics were about as bad as they could be. At the end of the discussion Sir Thomas Horder, in an impartial summary of the discussion, put forward his conclusions in the form of tentative answers to three questions. Firstly, had any patients got well after the lead treatment? Undoubtedly, they had. Secondly, had the treatment reached such a stage that it had become a practical measure to be applied to unselected cases? It was very doubtful whether this could be claimed to be so. Thirdly, what steps was it desirable to take in regard to the non-operative treatment of cancer with special reference to chemio-therapy and the use of lead? He advised two things: Firstly, the continuance of animal experiments, and, secondly, the research for less toxic substances than those at present employed. My own views, after listening to the whole of this discussion, are distinctly more unfavourable to the lead treatment than those of the President. While we have in deep X-ray therapy and radium methods which are far more scientific in their basis, more readily controlled, much less dangerous, and very much more effective, I feel that the lead treatment should be dropped entirely; that we are not justified in submitting our patients to it until experimental research has proved it to be safer and more effective than it is to-day.

Serum Treatment—

It was mentioned earlier that animals from whom tar carcinomata have been excised are immune to the later productions of fresh tar carcinomata. Lumsden, working at the Lister

Institute, has been able to produce anti-sera for several animal and human carcinomata. The treatment by these sera has not so far reached a practical stage, as they are only effective in checking the growth of a neoplasm when injected in large doses round the tumour itself. The fact that Lumsden has been able to prove the production of anti-sera with the power to destroy cancer cells has a bearing upon treatment by other means. It is probable that the slow destruction of tumours by radium is better than their more rapid destruction, since it allows the production of these immune substances.

Radiation Therapy—

Both Roentgen rays and radium give off radiations which have essentially similar properties. In each case there is a mixture of either waves of different lengths, the properties of the waves varying with their wave length. Those of long wave length, known as soft rays, have little penetration, while the short or hard rays penetrate more easily. In the case of radium the rays fall into three groups, named alpha, beta and gamma rays, of which the alpha are the long or soft rays, while the gamma are the hard penetrating rays, which are of the greatest use for therapeutic purposes.* The soft rays are of value for treating lesions on the surface of the body, but they cannot reach the deeper tissues. The mixed rays of radium or X-rays cannot be used for the treatment of conditions below the surface of the body because the soft rays would produce necrosis of the superficial tissues before a sufficient dose of the hard rays had reached the tissue to be treated. Thus, the hard or short rays are mostly used in treatment, the others being cut out by filters of aluminium lead, zinc or platinum. For this purpose 25 mm. of aluminium are equal to 1 mm. of zinc. Lead and platinum are still more effective filters.

Radium—

Radium is used in two forms—radium element and radium emanation. Pure radium is never employed in surgery, and when we speak of the element we refer to one of its salts, either radium bromide or radium sulphate. Radium emanation is a gas given off by the element, and has the same properties as radium of emitting rays. However, while the element and its salts can give off rays almost indefinitely, so that over several thousand years their properties in this respect are unchanged, the emanation loses half its power in just over three days, then another half in another three days, so that at the end of 10 days very little radiation effect is produced.

Radium was first used by application to surfaces; that is, a thin layer of radium bromide was painted upon the surface of an applicator and protected with varnish. This method is still used for some cutaneous lesions. Later, more massive doses were placed in contact with the growth for a short period, or were buried in its substance. Modern methods as a rule make use of smaller amounts of radium, applied for a much longer period, and evenly distributed in divided doses over a wide field. For this purpose two types of apparatus are used:—

(1) *Radium Needles—*

These are hollow needles made of platinum, pointed at one end and bearing an eye at the other end. The thickness of the platinum is 0.5 mm.; this cuts out the harmful and destructive gamma rays. Platinum is used not only as a filter, but because it is practically indestructible. Even the smallest needles contain radium to the value of about £100, and they may easily be lost or thrown away in the dressings, but being made of platinum they are practically indestructible, and can be recovered even from an incinerator. The value of a needle is expressed in milligrammes of radium element; the dose given to any tumour is expressed in milligramme-hours. The needles commonly employed in surgery vary from those of about 16 mm. long containing 0.6 mgm. of element, to needles 50 mm. long containing 3 mgm.

(2) *Radon Seeds—*

These are capillary glass tubes containing radium emanation. The value of the tubes is expressed in millicuries, one millicurie being that amount of gas which is in equilibrium with one milligramme of radium. These radon seeds are also enclosed in platinum in order to cut out the beta rays, for since the radon seeds are usually left *in situ*, the amount of destruction caused by the beta rays would be very great. The dosage in this case is expressed in millicurie hours, the millicurie value of any seed being taken for this purpose as a mean between that at the beginning and at the end of the application.

An average dosage in radium treatment of cancer is round about 1,000 milligramme-hours. One speaker stated that, in his opinion, the maximum permissible dosage was 10,000 milligramme hours, the maximum time over which radium should be used 300 hours, and the maximum unit 2 mgm. per cubic cm. of tissue.

Radium acts by bringing about the death of living cells, and when used in therapeutic doses this death is not sudden. The cells retain for some

* While the above terminology is still employed, it is now known that the alpha and beta radiations of radium are not true rays, but particulate matter.

time their normal appearance, but they cease to grow or divide. Gradually they lose their staining reaction, and are finally absorbed by the phagocytic cells of the surrounding tissues. The effect of radium upon malignant cells varies very much according to the histological type of the cell. It is greatest upon the cells of a squamous epithelioma, less effective upon growths of a glandular type, and least of all upon carcinomata of the intestinal tract. It is in the first type of growth, the squamous epitheliomata, that the best results have been obtained with radium, results which are in the main as good as, or even better than, those obtained by surgery.

The older methods of radium treatment by massive doses over a short period had some years ago fallen into disrepute; they usually produced wide destruction and sloughing in the centre of the growth, and appeared at its periphery to increase if anything the rate of spread. Modern methods aim at producing the slow death of malignant tissues and their replacement by repair from neighbouring structures. The whole area which may possibly be involved by the cancer must be subjected to a dose of radiation which is fatal to malignant cells, but not to the normal tissues. There is a good deal of evidence that these cells are especially sensitive to radiation during their period of mitosis. If therefore the radiation is spread over several days, the chances are that all the cells in the growth will be subjected during their mitoses to fatal radiation. It is essential then that the whole site and probable extensions of the growth should be carefully reviewed; then that the length, number and value of the needles by which this whole area can be effectively irradiated should be chosen, and the needles so spaced that no part will receive an excessive dose—producing sloughing, and that no malignant tissue will escape radiation. The effective radius of gamma rays is about 0.5 cm. of tissue, and therefore the needles are usually placed about 1 cm. apart, so that their radius of action intersects.

The needles are threaded with a double thread of strong silk or salmon gut through the eye at the blunt end. In growths in the mouth it is generally sufficient to push the sharp point of the needle into the tissues. On the surface of the body the skin is best punctured with a knife and the needles pushed through this puncture. To hold them in position one end of the ligature is passed over the opening with a small needle and tied in a knot holding the radium needle in position; the other end is left long, and the ligatures coming from several needles are tied together in groups, so that even if one needle drops out it shall be kept by the other needles in position and not be lost. Where needles are inserted into the mouth the threads are brought out at the angle of the mouth in a rubber tube, so that they shall not be cut through by the teeth.

The insertion of radon seeds is a similar procedure. Radon seeds are preferred to radium element for two main reasons. Firstly, because they can be supplied to institutions who do not themselves possess a stock of radium. Any number of radon seeds can be manufactured by a central laboratory, suitably equipped, and sent to outlying hospitals or to practitioners. Secondly, radon seeds are preferable to radium needles in the case of inaccessible growths because they can be left *in situ*, since after 10 days they are for practical purposes innocuous needles of platinum only, and can either become encapsuled by the tissues or slough out. For mediastinal growths, carcinoma of the œsophagus, or inaccessible growths at the back of the pharynx, radon seeds have very obvious advantages. Again, during a surgical operation for cancer, they may be buried in the lymphatic field of the area and left *in situ* without any fear that they will produce prolonged destruction. For instance, in the first stage of an operation for carcinoma of the rectum, the seeds may be buried in the glands in the upper part of the pelvic meso-colon, and possibly higher up round the inferior mesenteric artery, that is, those areas of tissue possibly involved by cancer cells that cannot be removed at the subsequent perineal resection.

While the treatment of the primary growth by radium is a comparatively simple problem, the management of the lymphatic field, a wide area in most cases, is more difficult. Several methods are being used at the present time. Firstly, radium needles may be inserted into the lymphatic field as into the primary growth; this is the method favoured by Keynes of St. Bartholomew's Hospital in carcinoma of the breast. Secondly, the lymphatic field may be treated by so-called "distant radiation." This is the method usually employed in radium clinics for the treatment of the lymphatic field in the neck when dealing with growths in the mouth. A collar is made to fit the neck of the patient from columbia paste, a mixture of 10 parts each of bees wax and paraffin and 2 parts of sawdust to make the mixture light; the collar is 1½ cm. thick. Radium needles are embeded on its outer surface by melting the wax slightly. Commonly, 40 mgm. of the element are distributed thus over the carotid and submaxillary triangles, in the form of 20 needles of 2 mgm. each. This collar is worn for 8–10 hours daily for 10–14 days, so that in all 3,200 to 5,400 mgm.

hours are given to the lymphatic field. Thirdly, radiation is applied to the lymphatic field by the deep X-ray method and not by radium.

It is necessary here to say something about the relative value of radium and X-rays, agents whose action is essentially similar.

The advantage of X-rays is that the method can be easily applied, and that many patients can be treated. Against it are the difficulty of measuring the dose exactly, the difficulty in being certain that a lethal dose is applied to the required tissue and not to surrounding healthy tissues, and the dangers of the general effects of radiation upon a patient, especially the damage to lymphocytes, which, if severe, may prove fatal. Moreover, the hardest rays which can be produced by an X-ray apparatus working at 250,000 volts, the highest voltage which can be employed as yet, fall very much below the gamma rays of radium in their power of penetration.

The chief advantages of radium are that its local application can be very exactly controlled, and that the dosage is easily measured. It is also entirely safe, and there is no primary mortality from radium treatment. Against radium is its very high cost; the amount used in any one case is worth probably from £1,000 to £2,000. Then only a small number of cases can be treated at a time with a given supply of radium, while the handling and preparation of radium emanation is a very dangerous occupation to the laboratory workers engaged in it.

The value of deep X-rays combined with the surgical treatment of carcinoma is undoubted. The number of cures—that is, cases free from recurrence after five years—is much greater after this combined method than after surgery alone. Deep X-rays also appear to be definitely curative in some sarcomata and especially in bone sarcomata, but as the sole method of treatment of the primary tumour in epithelial growths the method has been very disappointing.

The combination of radium treatment by means of needles applied to the primary growth and of deep X-ray treatment of the lymphatic field appears to hold out considerable promise.

Turning now to the results of radium in different situations we find, as we might have expected, that the best results have been obtained in those situations in which the primary growth is of the squamous epithelial kind. In the tongue the results are extremely good, equal to those of surgery. Regaud reports 50 per cent. of early cases, and 26 per cent. of all cases, alive and free from recurrence at the end of three years. The papillary and fungating types of growths are most suitable for radium treatment, the fissured growths and those with œdema or sepsis the least favourable.

In carcinoma of the cervix uteri again, the results of radium treatment are about equal to those of surgery. Heyman of Stockholm reports in operable and borderline cases treated by radium 40.5 per cent. free from signs of recurrence after five years and 60 per cent. after three years. Of inoperable cases, 16.6 per cent. were free from disease over the five year period. It is a striking fact that in this situation radium may do a great deal of good even to cases which are clearly beyond any hope of surgical treatment.

In the case of carcinoma of the breast, so much may not be claimed for radium. Regaud advises the use of radium for the primary tumour, but does not consider that it is of much value in the lymphatic field. He prefers the radical operation in early and suitable cases. Keynes reports the treatment of 42 cases of breast carcinoma at St. Bartholomew's Hospital by radium. He uses needles of the element both for the primary growth and for the lymphatic field; these needles are inserted round the growth itself, into the axilla, under the pectoralis major, above and below the clavicle and into the upper intercostal spaces near the sternum. He reports 13 out of 42 cases treated as apparently cured. Now, considering that many of these cases were of an advanced type, these results are extremely encouraging, but it cannot be said as yet that they are as good as those of the radical operation efficiently carried out.

In the case of the rectum, the results are still more doubtful. Neuman reports 21 two year cures out of 40 cases treated. Regaud states that the normal epithelium of the rectum is almost as vulnerable to radiation from radium as the cancer itself. On the whole, the results of radium have been very disappointing, and when it is remembered that Lockhart Mummery is able to show a 50 per cent. cure on the five year basis following his operation, it is unlikely that radium will be used for the primary treatment of these growths to any extent. The use of radon seeds in the lymphatic field may, however, increase considerably the cures obtained by surgery.

RADIUM VERSUS SURGERY

It is naturally quite impossible as yet to attempt to assess the relative values of radium and surgery in the treatment of cancer.

Radium is probably being used more in growths of the cervix uteri to-day than in any other situation, and its use appears to be increasing. Some surgeons, such as Donaldson of St. Bartholomew's, would apply it to all cases in preference to surgery. A great point in favour of radium in this situation is that there is no primary mortality from the treatment. However, to obtain good results, a very considerable degree of experience is neces-

sary. Heyman states that when he first took over control of the radium treatment from his predecessor his results were very much worse, in spite of his previous experience and in spite of using the same radium and the same apparatus for the treatment. While the arguments in favour of radium treatment carry considerable weight when applied to the general question of carcinoma of the cervix as a whole, they have less force applied to an individual case. In some, which appear on account of fixation to be inoperable, the infiltration is purely inflammatory, and the growth from the cancer point of view an early one and well within the reach of radical surgery. On the other hand, a growth that appears an early one on clinical examination may already have metastases in the pelvic glands, which would be unaffected by radium applied through the vagina, but which might be eradicated by a Wertheim operation thoroughly carried out; 37.8 per cent. of Mr. Comyns Berkeley's cases which have survived operation for five years had carcinomatous glands at the time of the first operation.

In growths of the tongue again it appears likely that the use of radium will displace surgery to a large extent; at any rate in the treatment of the primary growth. I cannot help feeling that surgical excision of the lymphatic field followed by deep X-ray therapy is at present preferable to treatment by radium at a distance. In epitheliomata of the lips and cheeks radium has even greater advantages over surgery than in the case of the tongue.

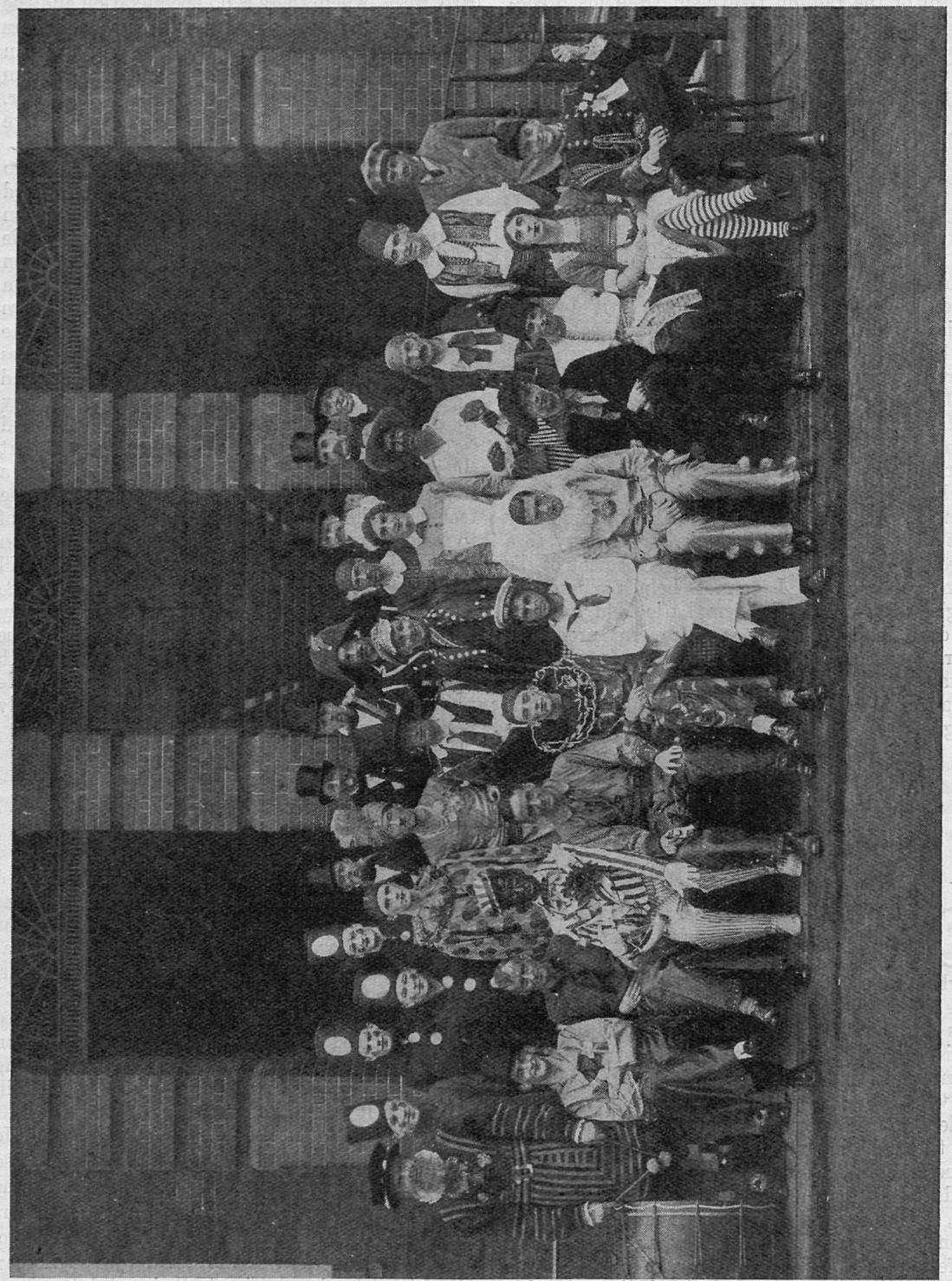
In carcinomata of the breast, at any rate in the early cases, where there is no deep fixation and the involvement of glands is only early, it appears probable that radical surgical removal will remain the treatment of choice. Implantation of radium in the outlying lymphatic areas will, however, probably add considerably to the number of five year cures obtained.

In those cases where surgery can at present do nothing, either because the growth is too advanced or because it is inaccessible, radium offers us an alternative of the greatest value. As an example of the latter types of growth I should mention especially carcinoma of the œsophagus. This is a squamous epithelioma, essentially of a benign type in that it grows slowly and only very late gives rise to metastases. It is true that two cases have been successfully excised by Torek and Eggers, but the opportunity to do this is likely to be very rare and to be due rather to good fortune than to surgical skill. The fact that these growths do not give rise to symptoms as a rule until both pleura are involved, and the technical difficulties concerned in the suture of the œsophagus and the liability of the mediastinum to infection all make it unlikely that excision will ever come to offer much hope in carcinoma of the œsophagus. On the other hand, it is very likely that a preliminary gastrostomy followed by the implantation of radon seeds round the growth through a thoracotomy may allow a considerable number of these cases to be cured and not merely palliated by surgery.

Christmas in the Wards

Addison

ON Thursday, December 27th, Addison, camouflaged very tastefully and very successfully with brightly coloured balloons, —which, incidentally, caused frequent alarms and excursions by exploding at unexpected intervals in the dead of the night—celebrated its Christmas with a concert. The programme was opened by Miss Rosemary Smith, who danced to us with exceeding daintiness and grace. We understand that this lady will shortly burst before the theatre-going public, and we predict a most successful future for her. Next, Mr. John Rowlands, accompanied on the piano by Mr. Oliver Ive, made the most entrancing noises, which burst upon our surprised ears from what looked like a perfectly good carpenter's saw. We heard one of the audience firmly refusing to believe that Mr. Rowlands did not produce the music from the back of his throat! Then Miss Smith danced again, this time a more jazzy affair, and she was followed by Mr. H. N. W. Harley, who left us dumbfounded with his sleight of hand manipulation with cards, pennies and ropes. We gave Mr. Harley up finally and let him have his own way; we dared not incite him to do any more—we had been surprised enough. After this Mr. Wilson Barrett, who had very kindly come down to sing to us, gave us two songs, and we felt, and still feel, that it will be a long time before we hear again a voice so entirely pleasant to the ear. He was followed by Miss Kathleen Lafla, who also has a beautiful voice and who adds to this extreme grace and personal charm. Both these singers were excellently accompanied by Mr. Oliver Ive. Next we were vastly entertained by the Lomax Brothers, who, in addition to their well-known and extremely popular version of "Frankie and



The Niggers, Xmas 1928

Johnny," introduced us to a new duet, with interludes of brotherly back-chat. They were a great success. After tea, most ably dispensed by Sister and the nurses, Messrs. Robson and McLean, with Mr. Ive at the piano, twanged away at their banjuleles—or should we have said ukuleles?—with most tuneful and invigorating effect.

They were succeeded by Mr. Tom Collins, from the South London Palace, who kept the audience—or such of them as he had not called up to the platform—in such vigorous fits of laughing that we feared for their successful recovery. Mr. Collins has such a manner that the most innocent remarks bring forth roars of laughter. Mr. Greenoway and his band, who did their usual most welcome tour of the Ward Concerts again this year, then played to us several times—but not enough. They are an extremely good combination. Next, Mr. Wilson Barrett and Miss Kathleen Lafla sang to us again. Miss Lafla was accompanied in one song by Messrs. Robson and McLean on their ukuleles—or should we say banjuleles?—with great effect.

The programme was ended by Messrs. Berger and Purdew, Mr. Berger on his ukulele—we are sure of it this time—while Mr. Purdew produced some amusing harmonies by clever manipulation of his crico-arytænoid joints.

Finally, a vote of thanks was proposed and warmly seconded to all the busy people who had come down to entertain us, and to Sister and the Nurses for all their trouble and hard work.

Astley-Cooper

ASTLEY-COOPER represented "Out-Door Sports, or The Best Ways of Coming by Accidents." Every form of vigorous exercise was represented. On entering the Ward the first thing one met was a most vivid Alpine scene, with plaster of Paris capped mountains, with gentlemen ski-ing down their slopes, what time the populace gazed in rapturous admiration from out their rustic dwelling. Further up the Ward on the left was a thrilling horse race, witnessed by no less than 37 spectators, some of whom, however, had wandered off to the merry-go-rounds and swinging boats. Opposite this the Guy's XV were playing a magnificent game of Rugger, tackling well and passing beautifully as ever. Still further on a fleet of aeroplanes was seen floating across the azure heights, and taking aerial photographs of yet further forms of manly and womanly pursuits. We are pleased to hear that as a direct result of the Christmas display, the number of accident cases has considerably increased.

Baby

CHRISTOPHER ROBIN and Winnie the Pooh
Have come to call on me and you.
In fact, they've really come to stay
For Christmas and the holiday.
They've brought with them so famous a crowd
Of friends, that every child is proud
To have such intimates.

They've brought with them Eeyore, the Rabbits and Roo,
And Tiger, the Owl and the Puppy's there too;
The King and his breakfast—the Cow and the Maid;
The poor dear Queen was nearly mislaid.
The Doctor with Delphiniums (blue),
The Dormouse and Geraniums—Ooh!
"Baby's" is just full of them.

Best of all on Thursday (P.M.),
Lots more friends were added to them.
Little patients—now well—have come again,
To see their old Ward with its jolly play-pen.
To a party that Sister had arranged.
A date that, willingly, no one exchanged,
So eager were they all.

It started with a conjuror man,
From whose nimble hands the clever tricks ran.
Then came tea, an informal affair,
In spite of the fact that Matron was there.
Father Christmas arrived at last in his glory,
With his smiling face and his beard so hoary.
The strangest H.P. seen in Guy's.

He'd toys without number and presents for all.
A part of the jollity that never could pall.
Sister was cheered, and with very good reason,
And everyone wished her the best of the season.
Hatted and cloaked, away they went,
That is, the ones for whom Sister had sent—
The rest were left in bed.

Bright

ON Friday, December 28th, Bright Ward once more lived up to its reputation and gave us a most enjoyable concert. After an excellent tea everyone settled down with an air of anticipation, which proved to be completely justified. The first item was a selection by Mr. Corelli Windeatt's delightful orchestra. Mr. Harold Farrer then sang to us *My Queen*, and was followed by Mr. Charles Harris and Miss Quinlan, who became extremely personal on the subject of the failings of their respective sexes—in fact, it was difficult to say who scored the most points, but

we are inclined to award the prize to Miss Quinlan for her description of man as a " collection of skin and bone surrounded by conceit." In their encore number, entitled *I Think of You*, they began quite politely, but this pleasant state of affairs did not last long, and they were soon being as rude as ever, though we must say they appeared to enjoy it as much as we did. The orchestra then played Gounod's *Ave Maria* and a selection from the *Gondoliers*, both being heartily appreciated.

Mr. Harold Farrer then sang to us again, and was followed by Miss Ruby Shepherd with *I Did Not Know*, and the audience being unanimous in wishing to hear her beautiful voice again, she gave us *Songs My Mother Sang*. Mr. Guiseppe Ceci was heard to advantage in *I Love You*. Miss Norah Blake gave us in her own inimitable fashion the story of a marriage *a la* wireless, and then thought it was time the audience did a little work, and after teaching us a chorus about ammoniated tincture of quinine, encouraged us to sing it. It really was not at all difficult, but, although a perfect audience, as a chorus we were distinctly not good. Perhaps the subject was too bitter.

Mr. Raymond Newell, from the Hippodrome, then came on and delighted us with his singing of *Leaning* and *The Sergeant-Major on Parade*. He was followed by Mr. Debroy Somers' jazz band, also from the Hippodrome. Mr. Harris and Miss Quinlan then reappeared and showed us three Impressions of London Town, which were all very amusing, and Mr. Newell sang to us *Looking at the Sky* and *Gipsy Dan*. Mr. Ceci and Miss Shepherd's voices were heard to great advantage in two duets, and after that Mr. Sterndale Bennett came along and showed us how neglected his fairy tale education had been when he tried to tell us the story of Cinderella—it was really astonishing how little he knew about her !

The orchestra played once again and brought a delightful concert to a close with *Auld Lang Syne* and *God Save the King*, and Mr. de Bruyn expressed the feelings of everyone present when he thanked those who had so graciously and willingly given of their very limited spare time to come and entertain us. We also heartily concurred in his thanks to Sister Bright and the Nurses for the hard work they had put in to make the concert such an unqualified success.

Christopher

ON Thursday, December 27th, Christopher Ward and its visitors enjoyed a very successful concert.

Hampstead Heath was its setting, approached very conveniently by Underground, through Naaman. And there were clear signs of weeks of labour by artists and artificers in all the attractions the Ward offered.

Probably Miss Betsy De-la-Porte and Mr. Harold Davies gave us as good singing as has ever been heard in a ward in Guy's Hospital, and in their duet showed most excellent balance between their two voices.

Mr. Charles Wreford went one better and sang a quartet all by himself.

An old patient, Mr. Bellamy, very kindly brought several of his friends to help us with their talent. Mr. Harold Walden, Howard Barnes and Mr. Tom Collins, together with the Sisters Langley, provided us with an excellent and varied performance of singing, dancing and lightning sketches.

Last, but by no means least, Mr. Harley (Fellow of the Royal College of Magicians ?) gave us some mystifying examples of the black arts. So concluded our programme.

And we must pass a vote of thanks on Sister, who was responsible for procuring all the artists, and for providing a most excellent tea.

Clinical

CLINICAL concert took place on the Thursday after Christmas. The Ward was attractively decorated as Fairyland, and many visitors spent a pleasant half-hour before the concert admiring the Babes in the Wood, Boy Blue, the Three Bears and other characters one would expect to find in such a place.

The artists of the Queen's Hotel Cabaret generously offered their services and provided the mainstay of a most enjoyable concert. Other excellent items were provided by Miss Webb, Miss Grundy, Mr. Harley of the Magic Circle, and the Brothers Lomax.

All the performers were greatly appreciated, as were the efforts of Sister and the Nurses in providing a first-rate tea.

At the end of the programme Dr. Hurst made a short speech, received with hearty applause, thanking the performers for their energy and generosity in coming to entertain us.

Cornelius and Lazarus

THE combined Cornelius and Lazarus concert took place to judge from the almond blossom in the atmosphere of a Japanese Spring. Although not as ingenious as Naaman, the decorations were very effective, and one of the most attractive of all the Wards. The concert commenced with outside talent. Mr. Macquire sang several old favourites. Mr. Fenwick is an excellent

" man at the piano," so we were kept thoroughly amused whenever he was on the stage. Local talent was provided by Mr. Harley, proving conclusively that, that that is, isn't, and that that is not, is, which all sounds very complicated, while actually in Mr. Harley's hands it was quite simple. The Messrs. Lomax were in their usual good form, and were kind enough to encore *Frankie and Johnnie*. This seems to have become a recognised institution, even as the Niggers entry and exit. Tea was provided in Lazarus, while Mr. Greenway's band made toes itch with terpsichorean rhythm.

Dorcas

THE Ward was artistically decorated with scenes from Alice-in-Wonderland, which included the mad tea party and the Duchess in a peppery atmosphere.

On Thursday, December 27th, in spite of many rival attractions, a large crowd assembled in Dorcas and was entertained by Mr. Greenway's band. This was followed by some amusing songs and a recitation by Mr. Frederick Chester, Miss de la Porte and her party then sang for a while. Mr. Proudluck, a magician, surprised us by joining metal rings into chains. For the rest of the afternoon we were entertained by Mr. Earle's party, " The Larks," which included a very excellent ventriloquist. There was no doubt about the success of the concert.

Evelyn

ON Wednesday, December 26th, Evelyn enjoyed an informal concert, rendered possible by the energy of the large party which Mr. Simkins, an old patient, brought to Job. These artists, after performing in Job, expressed a wish to visit any other ward where talent was scarce, and found themselves very welcome in Evelyn, which from its isolated position is seldom favoured by visiting players.

Their performance was thoroughly appreciated, and all hope to experience their spirit of willingness and good fellowship with each successive Christmas.

Eyes

WHEN everybody said this was a super show they did not mean just that Mr. Eason was there, although, of course, everyone who could be squeezed in, from Matron to little Lena, was there. It was a day of magic. First, the Works Department waved a wand and up sprang a stage, complete with footlights ; then Sister and her staff of pixies conjured up all sorts of gay flowers and tons of cakes and oceans of tea. And Shaw said, " Hey, presto ! " and there appeared a host of kind and delightful people, who, in their turn, and turns, enchanted us.

Miss Jacqueline Townshend brought her magic violin, and Miss Winifred Lawson, a universal favourite, brought her magic voice. Hubert Leslie's conjuring was a great success ; Lena rocked alternately with laughter and wonderment. Then Alfred Sirota, Jack Frost and Arnold Bell each gave splendid shows, and after that some more, and most astounding magic came from Gaston, who could fathom your unspoken thoughts —what a wonderful assistant he would make for Dr. Gillespie !

Miss Cecil Cunningham entertained us in broadly humorous vein, and Miss Vivien Lambelet's singing was very sweet. Then came Len Fillis and Harry Jacobson, and after them the Cone Cabaret Girls and the New Plaza Band— these were the great success of the afternoon. The dancers, from tiny tots to great, great girls, were all charming and accomplished. Lena sat quite still, her thoughts in Fairyland, and the senior pro. rocked with ecstasy and nearly dropped a dozen teacups.

Professor S. Harrison played solos as finely as he accompanied other people, and Anita Desmond sang to our heart's delight. Howard Fry gave an exquisite rendering of *Water Boy*, and Winifred Lawson sang again to our greater delight than ever. The concert ended brilliantly with a turn by Marjorie Gordon and Harold French, all panting from *Virginia*, whence they had rushed for our pleasure.

Where everything was peaches, one can not attempt to pick out plums. The best thanks we can give to the artists who so sportingly turned up is little Lena's last remark before she fell asleep, " It was all lovely."

Job

THE Ward Concerts were, unfortunately, condensed into two days, consequently, I feel many were unlucky enough to miss the concert in Job. I was one of the luckier people who, by fortunate chance, visited this ward on Wednesday afternoon. The Barodians, a most excellent concert party of entertainers, amused us with endless variety. These indefatigable people not only provided the whole Job entertainment, but despatched flying squads to both Evelyn and Pat and Sam.

Miss Louie Vodden gave inimitable renderings of many well known songs, including *My Birthday* and *Ramona*. Exceptionally good songs at the piano were sung by Miss G. Blake and Miss F. Wood. Indeed, the programme was a rapid suc-

cession of well-arranged items, each seemingly more enjoyable than the last. This concert party was provided by an old Job patient, Mr. Simkins, who not only gathered all these excellent people together, but stage managed the whole performance, helped by Mrs. Simkins, whose child impersonations were truly realistic. Messrs. Macquaire, Hanbury, Conway, Middleton and Perrin all must be mentioned. I think, as an outsider, I would like to congratulate Sisters Job and Luke on a very enjoyable afternoon, also Mr. Simkins on being able to collect such a versatile body of people.

Luke

FOR one whole week Luke became the apostle of modernity in village life. Posing as the hitherto little known hamlet of Stewhughes-ton, it proudly boasted the majority of those amenities more usually associated with a far larger community—a petrol pump, for instance, and a —more or less—public telephone. The village store, which apparently started in a humble way by selling plaster of paris, had developed into a flourishing dry goods business of truly Woolworthian proportions and variety. A sort of municipal aviary in one corner contained a weird and wonderful collection of birds of the air—the air being supplied constantly and very efficiently by a patient in the adjoining bed. The village bus looked rather as if it had rattled along Renal Row, up Hernia Hill and round Pyloric Corner for the last time, and in places somewhat immodestly revealed a chassis strongly reminiscent of Cot D—perhaps it had failed to compete with a horribly efficient railway, whose local booking office blatantly advertised through tickets to Switzerland. Evidently, the surgical registrar bought one, because he vanished a few days later, complete with skis, and has not been seen or heard of since.

A church with lights dim, but not too religious, seemed about all that was left of the original village, and, to our infinite regret, a vigorous sermon from a gentleman whose name was reminiscent of cold ale, coupled with Matron's inexorable decree, caused even that to collapse early on Thursday evening. Before this happened, however, there were merry times. The size of the crowd present testified to the success of Sister's Christmas dinner. Several ravenous Niggers, together with their pianist, having in the short space of 20 minutes severely strained the resources of the kitchen, departed to their task like lions refreshed, and gave good evidence later in the afternoon that nothing had disagreed.

The following day Job ran a concert and offered Luke a share, which, beside being sporty, happened to be very convenient, because concerts and " taking-in " do not go well together, and the Steward Wards were celebrating the last of the seven successive Christmas weeks when work and play have had to go on side by side. Altogether, one might say, a triumph of decoration over difficulties.

Lydia

ON Thursday, December 27th, many infants and more adults gathered to witness the Punch and Judy which Mr. Steward has so kindly engaged some 17 successive years for the entertainment of the young people in hospital at Christmas time.

Those present at this year's performance will frankly admit that this one reached even higher than the previous high standard attained. There were several entirely new acts, but the climax was reserved for the sixth, when an exceedingly troublesome butterfly evaded the most skilful attempts at capture, to the evident delight of both Mr. Punch and the audience.

Then followed a tea fight in which some 140 children demolished the accumulated hoards of confectionery stored in Astley-Cooper with a vigour which gave testimony both to the curative prowess of Guy's and to the tolerance of the infant stomach.

After this excursion a return to Lydia was effected, and, at 4.30 p.m., Father Christmas paid his annual visit to Lydia and distributed presents to everyone under 5 feet, and, having favoured Lydia for 75 minutes, departed through Astley-Cooper, where he softly and silently faded away, and will not be heard of again until Advent 1929.

Martha

A CONCERT was held in Martha Ward on December 27th, and from 3 p.m. until well after 6 o'clock a constant succession of musicians and singers were willing to amuse and entertain us.

Among the items which helped to make the concert a success, mention must be made of the dancing of Miss Fowle's pupils, the singing of Miss Pearson and Mr. Scott, and also the humorous songs of Mr. Norman Long.

It must have come as a surprise to many of the patients to find that their own " Doctors " could do anything in the way of entertainment, but all doubts must have been set aside when they had seen the conjuring of an H.S., heard the singing of two well-known brothers, or the excellent violin solos of Mr. Rutter.

And last, but not least, our thanks are due to Sister Martha for her hospitality and for the splendid way she, and her helpers, provided so varied and cheerful an entertainment.

Mary

MARY WARD awoke on Christmas Day to find itself transported to a land of laburnum and wisteria, paper parasols and Chinese lanterns, and in this quiet and restful atmosphere it remained for the four days of the Christmas festivities. The Ward Concert took place on Thursday, December 27th, and in spite of the obvious shortcomings of those who had arranged the programme, everything went with a swing, with the exception of an occasional five minutes' wait while internal and external adjustments were made in Sister's room. Mr. John Rowlands played on his saw with customary éclat, and Mr. Oliver Ive accompanied him with characteristic nonchalance. Mr. H. N. W. Harley completely mystified all of us with his handkerchief tricks and vanishing cards, which were invariably found in his trouser pockets, having obviously been in his other hand a few seconds before. Miss Rosemary Smith danced charmingly and was deservedly encored. Miss Kathleen Lafla and Mr. Wilson Barrett sang several of our old favourites, and then sang several more, and we wished they had been able to sing several more after that. Mr. Harry Walden nearly succeeded in making us want to live north of the Trent, so that we should hear people talking as he did; he sang very cheerily also. Mr. Tom Collins showed us how to produce a film. Our chief memories of this are of Dr. Poulton's late and present H.P.'s engaged in a bloodthirsty battle for the hand of the fair heroine, whom they kissed with great vigour, while the ubiquitous Mr. Tom Collins kept up a roar of instructions from all parts of the stage at once. Mr. Robson accompanied his own songs on a banjulele with great cheerfulness and not a little tune. We hope to hear more of him next Christmas. No Ward Concert is complete without the Lomax Brothers, whose rendering of *Frankie and Johnnie* brought tears to the eyes of one member of the Staff. Mr. Greenway's band was as good as ever. Elizabeth, aged 6, sitting in the front row, gazed at the shining machine that says, in various notes, oomph, and would not believe that it could make such delicious sounds until Mr. Greenway himself played a few solos for her especial benefit. Mr. Berger and Mr. Perdew finished the concert with an excellent series of syncopated melodies, perhaps the best of which was the *'Varsity drag*. On Friday, December 28th, the wisteria removed itself mysteriously from our view, to remain in hiding for another year, and Mary returned to her usual self. We all had a thoroughly good time, and Elizabeth—bless her heart !—still reminds us of the concert and hopes she will be in Guy's next Christmas.

Naaman

THE best decorations this Christmas were, as everyone knows, to be found in Naaman. The whole Ward was draped in the most ingenious manner so as to represent an Underground Station, and, apart from the little discrepancy of having to walk upstairs to get to it, it really was almost impossible to believe that one was not in the Underground. As soon as one entered the Colonnade one was faced with enormous Underground notices directing one to the trains and booking office, and on entering the Ward one looked down a long tunnel disappearing round a corner at the end. On all sides there was a brilliant display of advertisements of all descriptions; the usual favourites were, of course, in evidence, but local wit was not out of it :—

THAT GASTRO-JEJ YOU WANT
LET R.P.R. SUPPLY YOU
IF YOUR HEAD ACHES QUITE PHENOMENALLY, HAVE A DECOMPRESH BY BROMLEY

We have to congratulate Sister and her many energetic helpers for what was really a most superlative piece of work—both in conception and execution.

Pat and Sam

"COME to Rainbowland" said a very attractive poster in the Colonnade. We went, and found it easily because they had put a rainbow round the door in case you should go into Sister's room by mistake. Inside-showers of good chear, coupled with a perpetual fall of the dryest, noisiest rain that ever was, coming down a dozen drops at a time, with an aim as unerring as that of the Park birds. The awkward attic that crowns our Surgical Block had completely disappeared; in its place a crystal arcady seemed to invite festivity. And not in vain, for after Monday's movies the Niggers seemed to sing their best and loudest during their brief stay on the Tuesday afternoon, while Wednesday saw the Ward crowded for a concert that exceeded all expectations. To start the ball rolling, H. N. W. Harley demonstrated that medical magic was not his only stock in trade. Apparently, he could make money fly, swindle with a silk handkerchief, or cause us to squint badly with our psychic eye, all with an almost unprincipled ease and a patter as pleasant and continual as that of the decorative

rain. After that, artistes of all kind in a dazzling succession from Cockney Scotsmen to Norman Barber and his popular baritonics, with much passing of tea and chewing of cakes in between. Incidentally, Sister is to be congratulated on the way her canteen arrangements stood the strain imposed by what seemed like a small army of patients, relatives and friends.

The rain cleared up on Thursday we are sorry to say, and with it the rainbows, but at night time certain fairy lights still linger to remind us.

Queen

AN informal concert and tea for the patients and their friends was held on December 27th. It was opened at 4.45 by Mr. Ive at the piano, and from then on until 7 o'clock all enjoyed a varied entertainment. Messrs. Robson and McLean entertained with songs and banjolele and Mr. Rowlands visited us with his musical saw. Next, the Lomax Brothers, without whom no Ward Concert is complete, gave a selection from their repertoire. The Misses Langley, who had run all the way from Christopher to fill a breach in our programme, subsequently danced and sang with intense vigour. Miss Winifred Lawson kindly came up from the Eye Ward and rendered several most delightful songs. A popular item was provided by Mr. Bellamy's party of B.B.C. artistes, who worked very hard during the afternoon and stayed a long time in Queen. The concert ended with a conjuring display by Mr. Proudluck, a member of the inner circle of master magicians. Miss Samuel kindly played the accompaniment for several of the performers.

Stephen

THOSE competent to judge have selected the Stephen concert as one of the most amusing and entertaining of recent years. It need only be said that Mr. Clay Thomas brought a concert party to Stephen—for *cela va sans dire*, where clay is, there are no bricks. In previous years he has been beguiled to other parts of the Hospital, and on each occasion the varied and entertaining programme of his party has been most joyfully accepted.

This year Mr. Clay Thomas, in addition to the function of making the show really go, broke the ice with a seafaring song—loudly encored. He was followed by Mr. Glyn Dowell, who gave us a most delightful repertoire of tenor songs. Then there appeared Mr. Fred Curtiss, who kept everybody rocking with laughter and did patients more good than much medicine. Miss Edith Faulkner and Mr. Tubby Harold, entertainers of a most delightful and amusing kind, added to Mr. Curtiss's good work, helped to no small extent by Miss Ethel Bucknell, that most amazingly accomplished accompanist, whose songs at the piano were a joy to all. Last, but not least of that gallant band, was Mr. J. B. Concanon, who, as "a bloke what 'ad done wrong to his parients," gave a sketch so natural and characteristic that one was hard put to it to believe that it was not real.

Interspersed amongst these artistes, our own talent was well to the fore. Mr. Rowlands played on his saw, that most curious of instruments, drawing forth from it in some magical way most melodious tones; the Lomax Brothers with their well-known patter songs performed their part in keeping up the high spirits of the audience.

Finally, there was one whom we could never do without, Mr. Oliver Ive, dragged from one concert to start another and accompany at sight. What Christmas at Guy's would be like without Oliver appals the mind.

Notice

We regret that a wrong price was given to a book in Messrs. H. K. Lewis & Co.'s advertisement in our last issue. The book in question is Ewart's *A Guide to Anatomy*, price **12s. 6d.** net—**not** 19*s.* 6*d.* net.

Guy's Hospital Gazette

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The Out-Patient Dance

THE informal Tea Dance on Boxing Day seemed more popular than ever this year. While starting earlier than usual, dancing went on much longer, and the loss of an excellent band at half-past six proved no deterrent to the many eager spirits who carried on with the aid of gramophone or piano until well beyond dinner time.

The Out-Patient Nursing Staff having spread the floor liberally with a crystalline lubricant, that at first excited only our curiosity, but, later on, commanded our respect, suffered us gladly and without complaint to stamp hard and frequently upon their favourite corns. Did we even precipitate them suddenly and with sad loss of dignity upon their own floor, they merely blamed an innocent uniform or choked our apologies with more cake. Such enthusiasm defies description, so we will simply say that everybody seemed supremely happy and nobody wanted to stop when Mr. Greenway had to hurry off with the rest of his first-rate band to their evening engagement.

Somehow, the Lomax Brothers wandered in, surrounded by a haze of ward glory, and, seeing a piano, absent-mindedly sang us *Frankie and Johnnie*. When we heard what Frankie did to her man, we resolved to stick to dancing for the rest of the evening—it seemed safer. After this cabaret interlude a gramophone got into its stride which, incidentally, did not quite coincide with our own, but that seemed to be of minor importance. When the needles ran out and splints had been applied—after the customary deposit, of course—to several of our former partners, Sister gently suggested that the stage might be set for work next day, and so, after a storm of cheering in appreciation of her noble efforts on her guests' behalf, a willing army of scene shifters set about the litter of Landon Tea or demolished the brilliance of the ball room, until the Out-Patient Hall became its old sorry self, yawning for the drab horde that should crowd in on the morrow.

The Nurses' Dance

CHRISTMAS festivities this year seemed to come to an end very quickly. Four days of furious fooling rose to a final crescendo at the Nurses' Dance, held this year on December 28th instead of the usual date, New Year's Eve, after which a bathetic week-end intervened before the usual regime was resumed on the following Monday. But it was a magnificent note on which to end, the loud pedal fully depressed and the loudest stop pulled out.

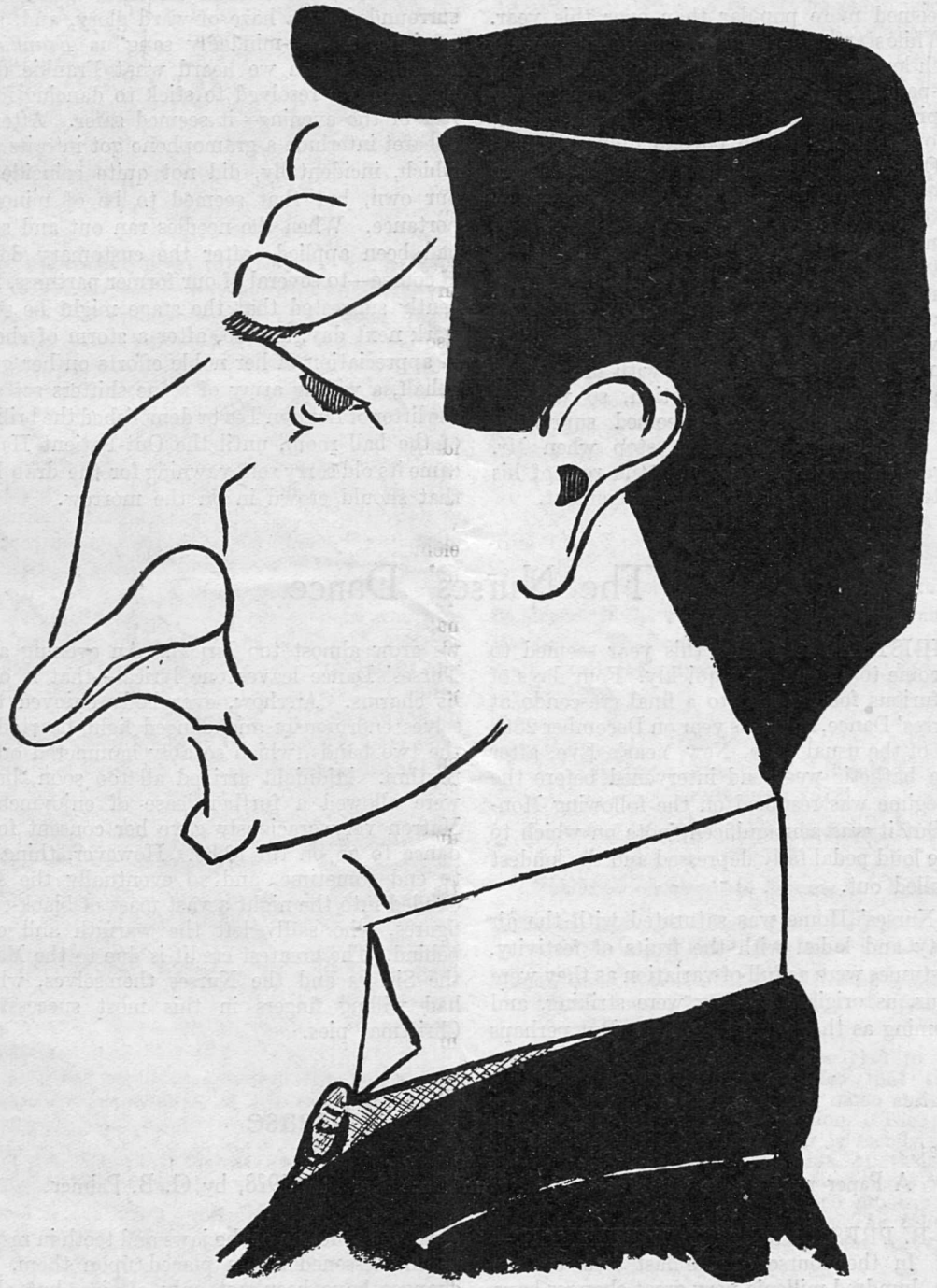
The Nurses' Home was saturated with the air of gaiety and laden with the fruits of festivity. The costumes were as full of variation as they were of colour, as original as they were striking, and as becoming as they were beautiful. But perhaps we grow almost too lyrical. An evening at the Nurses' Dance leaves one lyrical—that is one of its charms. Anyhow, everybody enjoyed themselves enormously and danced light heartedly to the two bands, which so ably hammered out the rhythm. Midnight arrived all too soon, but we were allowed a further lease of enjoyment, as Matron very graciously gave her consent for the dance to go on till 12.30. However, things had to end sometime, and so eventually the Home exuded into the night a vast mass of black-coated figures, who sadly left the warmth and colour behind. The greatest credit is due to the Matron, the Sisters and the Nurses themselves, who all had willing fingers in this most successful of Christmas pies.

Diet and Dental Disease

A Paper read before the Dental Society on December 6th, 1928, by G. B. Palmer

MR. PRESIDENT AND GENTLEMEN,—In the course of the last four or five hundred millenia very great changes have taken place in the jaws and teeth of man. Throughout the period there has been a steady and progressive reduction of the jaws and teeth in response to the lessened strain placed upon them. The changes have been not only of size, but also of mode of articulation and of the actual type of masticatory movement. This reduction of dental

As They Were



1. F. J. S. (as seen by W. L. Webb twenty years ago.)

length has been greatly accelerated in the last few millenia on account of the revolution in diet following upon the introduction of agriculture; and, before the jaws have fully accommodated themselves to this new condition, the further changes of diet in modern times have commenced a totally new set of adaptations.

From the data at our disposal we suppose that most of the ancient races of Aurignacian times and later had edge-to-edge bite, with correspondingly well developed pterygoid and masseter muscles. The jaws were capable of moving in all directions, and were free from the locking produced by the canines in Eoanthropus and the over-bite of to-day.

Let us consider the conditions in the Neolithic races of Western Europe, men comparatively well known to us from their remains, and who lived from 12,000 to 7,000 years ago. The jaws were larger and more strongly developed than to-day, the teeth were large and the third molar erupted and was fully functional at 16 to 18 years of age. The crowns were much worn down in course of mastication and the exposed dentine became dark and highly polished. The cornua of the pulp chamber, filled with secondary dentine, often became exposed. In some of the later and agricultural races the inter-dental septa often showed signs of periodontal disease, both of a traumatic type and that due to tartar collection. The attachments of the muscles are well marked, and in some of the hunting races considerable eversion of the angle, due to masseter action, took place; this is very noticeable among the Esquimo of to-day.

An organ which is not used to perform its intended function invariably undergoes modification, and unless it takes on new work degeneration will set in. The lowered blood supply, due to the lack of function, eventually leads to serious disturbance, and that, coupled with certain nutritional defects, has been the case with the jaws under modern conditions. The factors which have resulted in the present dental conditions can be studied in Europe and Mediterrania from the end of the last glaciation, a matter of some 15,000 to 20,000 years. The retreat of the ice fields opened up much fertile land, which was invaded by the first agriculturists. The Magdalenians and other hunting races followed the reindeer and herds of wild cattle to the north, and the newly-opened fertile lands were occupied by agricultural or quasi-agricultural communities radiating from Egypt to the Middle East. With the spread of agriculture the modern cereal carbo-hydrate type of food was gradually introduced into Western Europe.

Scattered over the outlying parts of Europe people may be found living under almost identical conditions, and on a similar diet as the Magdalenian hunters, the Bronze Age men and the Egyptian masses. A study of the diet and of the condition of the jaws of these isolated communities is very valuable. The Esquimo, Magdalenian man of to-day, lives on a diet almost wholly carnivorous, and one containing large quantities of fat. The jaws are subjected to great strain, and, in addition, are used for softening skins; this results in the complete wearing down of the upper incisors in a few years. The broad well-developed rami and enormous masseter muscles give the typical high-cheeked appearance to the race. The fibrous element in the food acts as a detergent to the gums and aids desquamation; any tartar is removed as it is formed, and the apparent evidence of periodontal disease in Esquimo mandibles is in part due to the over-eruption of the teeth on account of the excessive attrition.

Communities living under conditions almost identical with that of the Bronze Age and Neolithic people are found in the Hebrides, Lewis and the West of Ireland. The diet is partly carnivorous and supplemented with roots and cereals, elements which have a large fibrous content. The diet necessitates much mastication, and its rough nature acts, as in the case of the Esquimo, in natural massage of the gums, producing a good blood supply and removing incipient deposit. The food consists of cod's head, stuffed with cod's liver, milk, fish, turnips, potatoes and oatmeal.

In Eastern Europe and Russia the peasantry live on coarse rye bread, milk and roots, and under conditions very similar to the early agricultural peoples. The teeth are much worn by the coarse diet, but the finely divided state of its fibrous elements does not clean the soft tissues as does the more stringy type in the Hebridean diet. In addition, it is often deficient in certain vitamins (as is evidenced by pellagra and other complaints), and the resulting turgidity of the mucous membranes of the mouth tend to produce periodontal conditions similar, but less extensive, than those in England to-day.

The introduction of steel-milled flour and the endless succession of soft, sweet and starchy dishes of to-day, which excite little salivary secretion, has resulted in the almost complete inaction of the complex masticatory organ. The meat in the diet is either minced or so well cooked as to cause little difficulty in mastication, and the food is usually squashed between the dorsum of the tongue and roof of the mouth and swallowed. The diet is deficient in many vital and mineral factors, and the maldevelopment and overcrowding form ideal resting places in which the

soft and sticky foodstuffs collect. The salivary corpuscles are unable to deal with the swarms of micro-organisms, living in luxury on the fermenting carbo-hydrates in the sulcus, and the products of fermentation must inevitably have a deleterious effect on the gum tissues.

This great dietetic revolution has affected the jaws in two ways :—

(1) Mechanically, by reducing the strains and use of the jaws ; by eliminating the factors of use in bone development ; by lessening the blood supply and breaking down the normal methods of hygiene.

(2) Systemically, by the elimination of certain factors from the diet which are vital to the growth and calcification of bone and the health of the body generally.

These factors have been steadily operating over a long period, and now the cumulative effect of generations of misuse and nutritional faults and their resultant alterations in the jaws are becoming an hereditary factor.

Children are being born with defects of the teeth and jaws which primarily were of an acquired origin. This hereditary factor greatly complicates our study of the effects of diet, which in the first case is at the root and cause of all dental lesions and dental irregularities.

The study of deficiency diseases, and the enormous number of animal experiments which have been undertaken to discover the effects of vitamin deficiency and mineral metabolism, have thrown much light on the effects of nutrition on the teeth. The hypoplastic teeth and hypertrophied alveolar margin in rickets, and the oral conditions in scurvy—and infantile scurvy-rickets—have been well known for some time, but until recently no one has correlated them with dental lesions in the normal individual. The effects of nearly all these animal experiments have been very severe. Complete absence of certain elements have been the chief feature, and consequently spectacular results, rarely paralleled in Nature, have occurred. Most persons to-day are protected by chance against total lack of any one vitamin or mineral, and it is the continual living on the border line of an unbalanced diet, one which permits slightly subnormal activity, that has been neglected. Recently, experiments on rats, living on a slightly deficient diet, which permits growth with no apparent ill-effects has been continued for several generations. The sixth generation failed to reproduce. It is along this line that diet deficiencies in human beings must be studied. The present oral conditions are the result of dietetic errors which in the lifetime of a single individual would show little apparent effects, but which in the course of a few generations have resulted in profound modifications of the jaws and teeth.

The Mellanbys have recently repeated many of the older experiments with a view to studying the effect on the jaws, which appear to be one of the first structures to show symptoms of nutritive or endocrine disturbances.

We will first consider the effects of these factors on the teeth and, secondly, on the supporting tissues. The Sioux considered that the teeth of the white man decayed as the result of the number of lies passing over them. There are many other theories, but I propose to consider the factors of immunity to caries and the natural defences against it rather than theories of causation.

The fundamental principle in the healthy maintenance of any organ is functional activity and good nutrition. The first condition can only obtain in a mouth free from all over-crowding, with the arches in correct relation, and on a rough diet. The second is influenced by the chemical nature of the food taken and the blood supply.

Dentine is a living tissue depending for its vitality on the healthy condition of the tooth pulp. The pulp is extremely susceptible to any change in the constitution of the blood plasma, and very slight nocive stimuli are sufficient to interrupt the smooth working of its functions. In adult life, and after the teeth are fully formed, it is mainly concerned in the nutrition of the dentine, and slight variations in its vitality are not of such importance as when the teeth are forming. Disturbances at this early stage of development have far-reaching effects. As may be expected, the pulp is extremely sensitive to variation in the calcium content of the blood. and any disturbance of calcium metabolism causes a check in the normal laying down of dentine. The factors governing calcium metabolism are not as yet fully understood, but McCollum is of the opinion that they are governed by the vitamin contents of the diet. There is a certain minimum quantity of calcium which is required to carry out the normal calcium requirements of the body, and Shermann estimates this as being .45 grammes per day ; the optimum he considers to be about .69 gm. Growing animals, however, require far more in proportion as they are continually retaining lime salts in their growing bones and teeth. Infants require .2 gm. per kilo. body weight.

The utilisation of the calcium by the osteoblasts and odontoblasts is controlled by the phosphorous and fat intake, and by the endocrine system, particularly by the parathyroid glands. The form in which calcium is administered also influences metabolism. Calcium in milk is better

absorbed than that in vegetables such as spinach or carrots or soluble calcium lactate; the reason is probably one of dispersibility of calcium after absorption, that in milk being in a more finely divided state. Under a deficient diet, or with any disturbance of the parathyroid glands, the taking of even large quantities of calcium results in a negative balance. Hart found that a nursing goat showed marked differences in the fæcal calcium when the animal was changed from a green, to an old, dried, pasturage. The goat was placed on a dry feed; there was a considerable increase in the amount of calcium in the fæces and the animal became very debilitated. It was placed in a green pasturage, and in two weeks showed a positive calcium metabolism. Administration of cod liver oil results in redisposition of lime salts in an incredibly short space of time in animals where there have been a previous deficiency. Toverud has shown that calcium is absorbed from the pulpal aspect of the tooth within two days of an animal being placed on a diet deficient in calcium. In guinea-pigs fed on a scorbutic diet, great disturbances in tooth structure were found—the pulp tissues became so degenerated that its normal elements were almost unrecognisable. Small hæmorrhages similar to the sub-periostal hæmorrhages of scurvy were found in the cornua. The structure of the dentine changed to that of osteo-dentine, in which were found degenerated odontoblasts, and the calcium was partly replaced by magnesium. Extremes such as those to which the experimental animals are subjected are not met with under normal conditions, but a large proportion of the population is living on a diet deficient in mineral or vital factors. The vitality of dentine and its powers of resistance to caries when denuded of enamel depends as much on the healthy state of the pulp as on the mechanical conditions. Similarly, the reaction of the pulp in laying down secondary dentine is affected. The rapidity with which some teeth become decalcified almost to the pulp before any of the tissue has had time to become proteolysed, whereas some only become decalcified *pari passu* with the loss of substance, largely bears this out, although structural defects also play a part. On account of the extreme rapidity with which the pulp responds to the dietetic changes the importance of correct feeding is infancy and childhood cannot be overestimated.

During the first six months or more of life the only proper method of feeding a child is at the breast. Sir Thomas Moore, in his *Utopia*, says: "Every mother is nource to her own childe, onless either death or sickness be the let—when that chaunceth the wives . . . quickly provide a nource. And that is not hard to be done, for they that can do it prefer themselves to no service so gladly as to that," which suggests that even in Elizabethan times nursing, certainly among the aristocracy, was not universal. The superior value of breast feeding over artificial depends both on the composition of the milk and the mechanical factors involved in obtaining it. With the present-day bottle the infant merely sucks the milk with little or no effort. The child at the breast, however, has to work for its living. Not only the nipple, but the first curve of the breast, containing the ampullæ, is taken into the mouth. The child pushes against the breast and compresses the ampullæ with its orbicularis muscle, driving the milk into the nipple, which is then pressed against the palate squeezing out the milk which is swallowed. The whole act is totally different from that of the bottle-fed infant, who merely sucks—and, in sucking, draws in much air—and results in considerable development of the lip muscles and broadening of the pre-maxillary region. The child never leaves go of the breast while feeding, and, because it has to maintain close connection to ensure the potential vacuum, is compelled to breathe through its nose. The rapid and continuous breathing through the nose during feeding stimulates bony development at the back of the palate. The whole action of feeding greatly increases the vascularity of the mouth and naso-pharynx, and thus further stimulates development. The habit of nose-breathing is firmly established, and the far-reaching effects of mouth-breathing is eliminated; furthermore, the child, worn out with its exertions, quietly goes to sleep.

Most people suppose that a breast-fed child will receive the necessary calcium and vitamins in the milk, but a little consideration will show the fallacy of this. The mother can only supplement the deficiencies of her diet to a limited extent. During the war Kaupe made some investigations. He states that "the *amount* of breast milk should be sufficient to yield normal increase in weight, but this is not the case." He found that the fat content was normal, and no diminution of protein or carbohydrate could be demonstrated.

Similar observations by Hess among the negro women of New York, whose diet consisted almost wholly of milled cereals, muscle meats—an incomplete food— and tubers show that they failed to nurse their children, who mostly developed rickets. Scurvy has also been detected in breast-fed children. Experiments with rats have shown that whereas a very small amount of natural food suffices for the mother to exist, she is quite unable to nurse her young. The human mother, who all her life has been on the threshold line of vitamin

deficiency, cannot supply enough of the growth-forming and mineral elements in her milk.

In the course of animal experiments in diet deficiency, one fact has been brought out very prominently. The jaws and dental tissues generally—especially the gums—very soon show symptoms of disturbance. The oral condition in scurvy has been long known. Indeed, it is a typical symptom of the disease. The mouth becomes sore, the gums are red, swollen and congested and free margins enlarged almost to the occlusal surfaces of the teeth. Spontaneous hæmorrhages occur, there is much fœtor, and involvement of the periodontal membrane invariably follows. This mouth soreness and periodontal trouble is a prominent feature amongst beseiged garrisons. Some of the Turkish outposts in Arabia had all their personnel incapacitated by periodontal inflammation.

In bottle-fed infants a syndrome known as Barlow's disease is developed. It is due to the absence of the anti-scorbutic vitamin in the diet and the associated disturbance of calcium metabolism. The gums become hot, turgid and thickened and the soreness often prevents sucking, and consequently general malnutrition ensues. The main feature of the disease is excessive tenderness of the limbs, causing the child to scream with pain when handled. The tenderness is due to subperiosteal hæmorrhages. This disease of diet irregularity is probably identical with what is commonly known as teething.

M. Mellanby has shown that dogs fed on a diet deficient of vitamin A not only have tooth development primarily affected, but the bony tissues of the jaw are replaced by a type of loose osteoid tissue, associated with swelling of the periodontal membrane. The ligament of Black and the epithelial structures of the gum are degenerated. When an animal is put on such a diet lesions occur very similar to those of suppurative periodontitis, without the presence of an inflammatory reaction. The degenerative changes at the junction of the tissues at the neck of a tooth undoubtedly have a weakening factor to resistance to infection. This effect, combined with the congestion, hypertrophy and tenderness seen in anti-scorbutic deficiency, must render the mouth more liable to infection, if only by causing a breakdown in the normal methods of oral hygiene.

Periodontal disease was far more common and widespread among certain early races than is generally supposed. The literature on the subject is difficult of access and mainly confined to ancient Egyptians. Its prevalence in Dynastic Egypt is indicated by the many prescriptions and remedies for "strengthening the teeth," "for the gums when they are red" and "for the bennut blisters," probably the pockets of gingivitis. Some of these remedies are very objectionable; some for the use of patients who paid well and must not be offended; and others from their complexity were undoubtedly given to impress the patient with the prescriber's knowledge of pharmacology.

Here is one :—

"To strengthen the teeth."

R/ Cow's milk.
Fresh dates.
Uah corn. . . aa 1 part.
Sig. To be left stand and then masticate 9 times.

Very nice, too. But what about this one ?

R/ Incense.
Verdigris.
Green lead. aa 1 part.
Misce. Apply to the teeth.

Here is an attractive mouth wash :—

R/ Water.
Absinthe. aa 1 part.

To return to our subject; tartar was very common amongst the ancient Egyptians. King Amenhotep III had all the teeth on the right side, both upper and lower, firmly encrusted with calculus. Herodotus states that after the battle of Plataea corpses were found "the upper jaw grown in a piece, all in one bone, the front teeth and the grinders."

From an examination of a number of Neolithic, Bronze Age and ancient Egyptian skulls at the College of Surgeons, the following facts were obtained. The Thames bed crania show few traces of tartar, one of them having a little on the lower sixes and sevens, and several on the lower eights. The men from the long and short barrows show calculus on one or two teeth: the Coldrum mandible has a small deposit on the front surface of the incisors and on some of the other teeth. In the ancient Egyptian skulls of the Fourth Dynasty, tartar is found in great masses round the lower molars, and there is considerable destruction of alveolus. In some cases, as with Esquimos, the teeth become tilted forward with the strain of mastication, and often become firmly embedded in the jaw at right angles to their original position. The masticating surface being one of the roots, the teeth often do this in succession, one by one being tilted over and ground in. The teeth of the later dynasty skulls show less tartar, but much evidence of periodontal disease. The Eighteenth Dynasty skulls are also often thickly encrusted with tartar in the molar regions.

Let us consider the significance of these facts :—

The Bronze Age and some of the Neolithic men and the owners of the Thames bed crania living on a diet similar to that of the islanders of Lewis and the Hebrides—*i.e.*, a largely carnivorous diet supplemented by roots—show little tartar, except in the older individuals. The ancient Egyptians —an agricultural community—living on millet, barley, and corn breads, and porridge, with occasional fish, water fowl and dates, show much attrition of the teeth, also considerable encrustation of tartar. The fibrous elements in their food, whilst effecting the hard tissues, were in a too finely divided state to act in the same way as the stringy meats and roots of the Hebrideans in cleansing the soft tissues. Those members of either group having the edge-to-edge bite are singularly free from any accumulations of tartar. Even in the Fourth Dynasty Egyptians the deposit was much less than in those with an over-bite. With an edge-to-edge bite the articulation admits of movement in all directions, and a slight proclination of the lower incisors helps the exposure of all the teeth to the cleansing action of the food and tongue.

Having discussed the manner in which the diet may influence the jaws and dental structures, both by its local and systemic effects, a resumé of them in relation to actual dental disease may be given. We will particularly consider the question of tartar deposit, for this is the starting point of the local factors in periodontal disease. For the sake of illustrating these factors let us imagine a person with perfect dental arches and correct occlusion and with an edge-to-edge bite—indeed, such edentition as was possessed by the Magdalenians and Bronze Age men and the Esquimo of to-day. Furthermore, imagine this person to be feeding on a diet of roots, vegetables, fish and half-cooked meat, eaten by gnawing it from the bone or tearing portions of it from a steak. From childhood this person would have lived on a natural diet, and would have had the advantages of probably two years breast feeding. As the teeth were completely erupted there would at first, as Warwick James has pointed out, be no pocket or gingival trough. From lack of evidence to the contrary, one may assume that leptothrices were present, and tartar would commence to form in microscopical amounts along the gingival margin. At the next meal the fibrous food passing over the necks of the teeth would clean the first molecules of the as yet loosely adherent tartar away, and, consequently, it would not accumulate. Now, let us imagine that some temporary injury to the part or some hyperæsthesia is present. The instinctive tendency would be to avoid eating there, and so the tartar would commence to form undisturbed in that site. If the temporary tenderness disappears rapidly, the newly-formed deposit may be removed and complete resolution take place. If the injury is severe the forming calculus would delay resolution and the slightly raised gum margin would hinder the removal of gum tartar by natural means. The deposit can grow on the side removed from the cleansing forces as fast as it is planed down on the outside, and, finally, the irritation of the tissues will promote the deposit of seruminal tartar. Similarly, the hypertrophy of the gum tissue seen in scorbutic conditions, and the proliferation of the gum margins in rickets and thyroid deficiency, and the congestion due to accumulations of filth would act as a predisposing cause to the formation of tartar by interfering with its normal removal. Once the tartar formation has commenced, the course of the disease inevitably takes place, as Warwick James has shown. Also, a diet deficient in fibrous elements will cause a failure in the defensive mechanism against tartar accumulation. The loss of function, and consequent lack of development and concomitant irregularity of the teeth resulting from such a diet over a number of generations, will favour stagnation and interfere with the normal self-cleansing action of the food. Indeed, with the over-bite, even in quite a slight degree, one is inclined to think the dietetic prophylaxis is impossible, and consequently gingival disease sooner or later is inevitable. In anthropoids and the lower races of man, such as Eoanthropus and Neanderthal, a certain degree of procumbancy in the lower incisors aided cleansing of this region, but to-day, in many cases, there is a decided retroclination of these teeth.

Lack of certain vitamins during development, and the disturbance of calcium metabolism, has very far-reaching results in dental trouble.

We have seen how the pulp reacts to the lack of certain vitamins and mineral deficiencies, and how the supporting tissues are affected also by their absence. The lack of these vitamins causes poor development of the jaws and supporting tissues, disorganisation of the pulp and consequent diminution of vitality and faulty calcification of teeth. It causes also a pathological condition of the gum tissues. We have also seen the effects of the fermentation of soft, pappy foods on the gums and teeth and the effects of the loss of function on the process of natural removal of tartar—it remains to review the situation.

In England, until recently, repair and cleanliness have been the goals towards which the dental profession have been striving, the local conditions have been carefully and empirically treated.

Minute and painstaking attention has been given to the invading microbes, the seed, little to the tissues, the soil. "A clean tooth will not decay" is the slogan of the clinics. "A well-formed and functional tooth will not decay" is nearer the truth. Our aim should be to bring up a generation with sound, well-formed and functional teeth, set in well-developed arches. *Dens sanus in ore sano.*

We must concentrate in forming these sound teeth by ensuring a proper diet for the expectant mother, a diet rich in mineral matters and vitamins. The mother should have a rest from her work, if possible some weeks before delivery, and facilities should be arranged for her nursing the child afterwards. The child should be suckled as long as possible, and during lactation the diet of the mother must be carefully controlled. The good start such a child would have must be continued by careful weaning; as soon as the incisors are cut it should be given fruit to gnaw and suck. By the time its deciduous molars erupt it should be capable of masticating most natural foods. It should also have plenty of detergent fruits, roots and vegetables.

The popular idea of sound nutrition is the eating of refined food, clean bread, pasteurised milk and other substances which yield the minimum of indigestible material—and immunity-giving bacteria. This ideal has dominated the minds of all those concerned with the feeding of infants. The child must only have the soft food which it can digest entirely—indeed, as Sims Wallace has so admirably put it, the ideal was apparently to put refined food into the mouth and follow it up by a pill to extract excrement from it. The devastating effects of diets resulting from this teaching on the teeth and alimentary tracts was never for one moment realised. A considerable amount of fibrous and in nutritious material is essential for the well-being of the dental organ and the alimentary tract. Children fed on pap foods find a hard crust painful, and the fond parent, taking this as a sign that it is the hard food which is causing the damage, continues to give still softer forms of nourishment. A viscious circle is thus set up and the natural methods of oral hygiene are completely broken down. We do not want the tooth brush, but a return to that type of diet which ensured cleanliness and freedom from tartar in the Esquimo and Bronze Age men.

Unless the present dietetic conditions are changed, and that rapidly, the race will be fast on the way to complete disruption of the dental organ.

The development of sound teeth is essentially a dietary problem, and it will be our duty, as dental surgeons, to impress upon the public's mind the supreme importance of this factor.

Correspondence

Junior Staff Annual Dinner

DEAR SIR,—The annual Junior Staff *v.* Nomads Rugby match will take place at Honor Oak Park on February 13th, and will be followed by a dinner at the Bridge House Hotel. Mr. W. D. Doherty is arranging the Junior Staff team. It is hoped that all members of the Junior Staff will be present at both functions, and that some at least of the Senior Staff will be able to attend.

It will be very helpful if those who are intending to dine will let me know a few days beforehand.

Yours truly,
HAROLD E. HARDING.

Rugby Football

DEAR SIR,—We are now through with the first half of the Rugby programme, and, as in past seasons, I give below the figures of the 1st XV up to December 31st, 1928.

The figures given are not exhilarating, but improvement has taken place in the later matches, and we have also been unfortunate, losing good men with illness and injuries.

The loss of Myburgh will, without doubt, be felt in the forwards; he was a great "hooker."

Let us hope the improved form will be continued in the New Year, and the "Cup" restored to Guy's.

The following figures show details up to December 31st, 1928:—

Played 14, Won 2, Drew 0, Lost 12.
Points For 84, Against 186; Per Cent. 14.28.

Yours truly, ROY C. HOLLOWAY.

P.S.—Only two matches to date have been scratched—*v.* Aberavon and Old Alleynians.

"The Bungalow," Edith Avenue,
Peacehaven, Sussex.
January 3rd, 1929.

Building Operations

DEAR SIR,—I should like to make use of your columns to express a fervent hope that since building operations are now going on in the subway, something might be done about the stairs leading up to the College.

I have just fallen up this death-trap and cut my eye.

Yours truly, HEMATOMA.

Guy's Hospital, London, S.E.1.

[While quite in sympathy, we suggest a little more water with it in the meanwhile.—ED.]

Sport

Rugby

Guy's *v.* United Services (Portsmouth)

AT Portsmouth on Wednesday, December 19th, 1928, the home side were successful by 2 goals and 1 try (13 points) to 1 goal (5 points).

For the return fixture with the Services Guy's were unable to field their full strength and to lessen their prospects of success they had to contest the first half with only 14 men, owing to F. H. B. Spence missing his train. P. D. B. Spence, Windsor H. Lewis, T. G. Robinson and I. K. Thomas were notable absentees from the back division, but their deputies performed very well against a strong set of backs which included G. M. Sladen, H. C. Cumberbatch, R. B. Maxwell and H. C. Hinde. The two former were in capital form, whilst Forbes and Hinde at half had a wonderful understanding.

Our pack, ably led by Popplewell, held their own in the scrums, but in the loose the Services used their feet to rather better purpose than Guy's front rank.

Despite the fact that they were playing a man short, Guy's put up a stubborn resistance during the first half. So stoutly and effectively did they defend that their line was not crossed until 20 minutes had elapsed, and it was by an unconverted try by Maxwell that the home side led at half time.

On resuming Guy's took up the attack and Spence signalised his arrival by sending in Ive for a try, which Hogbin converted.

The Hospital thus led by 5 points to 3, an advantage which they retained for the next 20 minutes. During the last 10 minutes the Services exerted considerable pressure and eventually Cumberbatch and Forbes registered tries, which were converted by Sladen and Brown respectively.

Guy's Team—J. C. Hutchinson; O. Ive, F. H. B. Spence, F. R. Peatfield, P. A. Sloane; A. J. D. Lewis, W. D. G. Jones; J. R. F. Popplewell (capt.), C. D. Malone, R. A. P. Hogbin, G. F. Lashmore, A. R. Clarke, K. G. Smith, T. Morgan, R. G. Knight.

Guy's *v.* Old Merchant Taylors

IN spite of the fact that they had to rearrange the whole of their back division at the last moment, Guy's gave a very much improved display, and were distinctly unlucky to be beaten at Teddington on Saturday, January 5th, by 2 goals and 2 tries (16 points) to 1 goal and 1 try (8 points).

The forwards maintained the good form shown in previous matches, and played a big part in the struggle, especially during the first half. Once they have found a hooker, there is do doubt that the pack will hold its own against the majority of other clubs.

P. D. B. Spence, Windsor Lewis, T. G. Robinson, I. K. Thomas and A. R. Clarke were all unable to play, and when they are available there should be a distinct improvement all round.

Luckily for Guy's, Eustace had recovered from his recent indisposition and worked the scrum in partnership with Ryan. Both gave a sound display and frequently kept the threes going.

The Hospital held their own so well that the result remained in doubt until a few minutes from time.

The first half was evenly contested, and had it not been for the Old Boys being so well served at three-quarter, the single try by which they led at half time might easily have been reversed.

Newell, the home side's wing, who was responsible for the try, ran more than half the length of the field before achieving his object.

The O.M.T.'s centres were in splendid form and were ably supported by their fly half, H. D. Heck.

Early in the second half Guy's took the lead when Ive, following up a long kick, registered a try, which Hogbin converted. The advantage was not maintained for long, as Turnbull beat Johnson in a race for the ball over the line and scored a try, which Spragg improved.

Near the end Turnbull and Buncombe crossed the Hospital line, one of the tries being converted by Spragg, whilst for Guy's Ive completed a fine run and crowned a good afternoon's work by scoring another try, which was not converted.

Guy's Team—A. G. Johnson; O. Ive, F. H. B. Spence, S. R. Peatfield, A. J. D. Lewis; D. F. Ryan, L. J. Eustace; J. R. F. Popplewell, C. D. Malone, R. A. P. Hogbin, G. F. Lashmore, T. Morgan, L. G. Knight, K. G. Smith, J. R. Batchelor.

Appointment

W. A. Mill, F.R.C.S., Assistant Surgeon to the Central London Throat, Nose and Ear Hospital, Gray's Inn Road, W.C.1.

Hospital Information, etc.

Pass List

UNIVERSITY OF LONDON

M.D. EXAMINATION

December, 1928

Branch I—Medicine

M. Mitman, B.S. W. S. Whimster, B.S.

Branch IV

M. E. M. Jago, B.S.

M.S. EXAMINATION

December, 1928

Branch I—Surgery

N. L. B. Eckhoff

THIRD M.B., B.S. EXAMINATION

November, 1928

Distinguished in Medicine and Surgery

Honours

G. W. Rake

Pass

S. J. M. Nevasquez D. Ellis
R. M. Jones D. F. Kanaar
M. Mackenzie W. H. Miller
Scott-Russell Trick P. C. Wickremesinghe
S. I. Abrahams

GROUP I

K. J. H. Davies H. N. W. Harley
J. F. Mackenzie

GROUP II

C. B. Picken H. W. A. Post

CAMBRIDGE UNIVERSITY

SECOND EXAMINATION FOR MEDICAL AND SURGICAL DEGREES

PART II

December, 1928

Lewis, W. H.

THIRD EXAMINATION FOR MEDICAL AND SURGICAL DEGREES

December, 1928

PART I

Booker, F. G. Wills, L. K.
Shackle, J. W. Wood, G. N.

PART II

Brockington, C. F. Moore, J. K.
Clayton-Jones, E. Richmond, J. H.
Graff, E. L.

Papers by Guy's Men

H. W. Barber, F.R.C.P., and G. H. Oriel, M.D. A Clinical and Biochemical Study of Allergy, *Lancet*, 1928, ii, 1009 : 1064.

John A. Ryle, F.R.C.P. An Address on Chronic Spasmodic Affections of the Colon and the Diseases which they Simulate, *Lancet*, 1928, ii, 1115.

C. H. Fagge, M.S. Bradshaw Lecture on Axial Rotation : Purposeful and Pathological, *Lancet*, 1928, ii, 1167.

W. H. Ogilvie, F.R.C.S. A Pneumatic Bone Operating Set, *Lancet*, 1928, ii, 1177.

E. P. Poulton, F.R.C.P. Oliver-Sharpey Lectures on an Experimental Study of Certain Visceral Sensations : Lecture I, *Lancet*, 1928, ii, 1223 ; Lecture II, 1277.

A. A. Osman, M.R.C.P. Non-Obstructive Suppression of Urine, *Lancet*, 1928, ii, 1233.

T. B. Layton, F.R.C.S. A Tonsil Ecraseur, *Lancet*, 1928, ii, 1243.

C. S. Lane-Roberts, F.R.C.S. Abdominal Pain in Pregnancy, *Lancet*, 1928 ; ii, 1288.

J. H. Ryffel, B.Sc., B.Chir. The Chemical Examination of Fæces, *Lancet*, 1928, ii, 1353.

R. E. Smith, M.B., B.S. The Ætiology of Primary Lung Carcinoma : An Experimental and Clinical Investigation, *Jour. Cancer Research*, 1928, xii, 134.

C. Worster-Drought, M.D. Acromegally with Amotrophic Lateral Sclerosis, *Proc. Roy. Soc. Med.*, 1928, xxii, 1 ; *Clinical Section*, p. 1.

—— Muscular Hypotonia with Hypoglycæmia, *Ibid.*, 133 ; *Sect. Study Dis. Childr.*, p. 7.

—— Acromegally in a Woman, *Ibid.*, 150 ; *Clinical Sect.*, p. 12.

G. B. Dowling, M.D. Pyodermatitis Vegetans, *Ibid.*, 93 ; *Sect. Dermat.*, p. 5.

W. M. Mollison, M.Ch. (1) Lymphosarcoma of Tonsils, (2) Chronic Subglottic Laryngitis in a Child, *Ibid.*, 161 ; *Sect. Laryngol.*, p. 5.

—— Membrane on Palate, Pharynx and Larynx, *Ibid.*, 164 ; *Ibid.*, p. 8.

C. Worster-Drought, M.D. Encephalitis Pariaxialis Diffusa of Schilder (?), *Ibid.*, 174 ; *Sect. Neurol.*, p. 10.

—— and L. Mandel. *Ibid.*, 175 ; *Ibid.*, p. 11.

C. Worster-Drought, M.D. Disseminated Sclerosis with Argyll-Robertson Pupil, *Ibid.*, 176 ; *Ibid.*, p. 12.

Sir Maurice Craig, C.B.E., M.D. President's Address : A Survey of Some Conditions Conducive to Mental Disturbance, with Suggestions as to Their Treatment, *Ibid.*, 197 ; *Sect. Psychiatry*, p. 1.

Change of Address

L. M. Garrett, L.D.S., R.C.S., Bridge House, Taunton, Somerset.

John C. Fast, M.R.C.S., L.R.C.P., Bushby, near Leicester.

F. W. Sander, L.D.S., R.C.S., 154, High Street North, East Ham, E.6.

D. T. Jones, M.R.C.S., L.R.C.P., Denis House, 116, Eastcote Lane, South Harrow. Tel. : Harrow 2126.

Edward M. Mahon, M.R.C.S., L.R.C.P., 41, Harley Street, W.1. Tel. : Paddington 8145.

Frank Cook, F.R.C.S., from 152 to 41, Harley Street, W.1. Tel. : Langham 3816 and Hop 5318.

Marriages

BROUGHTON-BUGBIRD—On January 2nd, 1929, at All Saints, Stamford, Lincolnshire, by the Rev. W. B. Broughton, Lieut.-Cmdr. Stephen Percyvall Broughton, Royal Navy (retired), to Norah Constance Bugbird.

WARNER—HANSEN—On December 21st, 1928, Norman Steffan Heegaard Warner, L.D.S., R.C.S. Eng., of Greenhouse Manor, Rotherfield, Sussex, and 186, Queen's Road, London, S.E., second son of the late G. H. Warner, L.D.S., and Mrs. Marie Warner, to Ingeborg Mathilde Hansen, only daughter of Her and Fru Ivort Hansen, of Gjerriel, Grenaa, Jylland, Danmark.

EDS. { O. P. / E. T. C.

GUY'S HOSPITAL MEDICAL SCHOOL.

TIME TABLE. SPRING TERM, 1929.

SUBJECTS FOR FINAL EXAMINATION. MEDICAL.

Subject	Lecturer	Days and Times	Place	First Class or Lecture
Surgical Pathology	Mr. Davies-Colley	Tues. and Thurs. at 4.45 p.m.	Museum	Tuesday January 8th
Medical Pathology	Dr. Marshall	Tuesdays and Thursdays at at 12 noon	Museum	Thursday, Jan. 10th
General Pathology	Prof. Donaldson	Lectures—Tues., Thurs. and Fridays at 12 noon Practical—Daily at 9 a.m.	Pathol'cal Theatre Path'cal Class Rm.	Tuesday, Jan. 8th Monday, Jan 7th
Ophthalmology	Mr. Ormond	Tuesdays, 9.15 to 10 a.m.	Pathological Th'tre	Tuesday, Jan. 8th
Public Health	Dr. G. F. Buchan	Fridays at 4 p.m.	Pathological Th'tre	Friday, Jan. 11th.
Applied Anatomy	Professor Johnston	Wednesdays at 12 noon	Demonst n Theatre	Wednesday, Jan. 9th
Radiology	Mr. Redding	Tuesdays at 4 p.m.	Anatomical Theatre	Tuesday, Jan. 15th

ORGANIC CHEMISTRY, ANATOMY, PHYSIOLOGY AND PHARMACOLOGY.

Subject	Days and Times	Place	First Class or Lecture
Organic Chemistry (2nd M.B., Part I)	Lectures—Weds. & Fridays 9.30 a.m. Practical—Mons. & Thurs. 10–1 p.m.	Chemistry Theatre Chemistry Laboratory	Wednesday, January 2nd Thursday, January 3rd
Anatomy	Senior Lectures (Embryology)— Tues. and Thurs. at 9.30 a.m. Elementary Lectures— Mons. 9.30 a.m. Weds. 11 a.m. Practical Anatomy— Daily from 9.30 a.m. to 5 p.m. Revision Classes— To be announced later *Normal Histology*— Tuesdays at 2 p.m.	Anatomical Theatre Anatomical Theatre Dissecting Room Demonstration Theatre Histology Laboratory	Tuesday, January 8th Wednesday, January 2nd Tuesday, January 1st To be announced later Tuesday, January 8th
Physiology	Elementary Chemical Physiology (All Junior Students) Fri., 11–1 p.m. Sat., 10–12 noon Advanced Experimental Physiology (Senior M.B. Students) Mons. and Weds., 11–1 p.m. Clinical Physiology (All Students) Thurs. 12–1 p.m.	Chemical Physiological Laboratory Experimental Physiological Laboratory Clinical Theatre	Friday, January 4th Monday, January 7th Thursday, January 10th
	Tutorial Classes, Elementary—(Junior Medical Students) Advanced (All Senior Medical Students)	To be arranged	To be arranged
Pharmacology	Mons., 4 p m. Fridays, 1.15 p.m.	Physiological Theatre	Friday, January 4th

CHEMISTRY, PHYSICS AND BIOLOGY.

Course	Subject	Lectures	Place	Practical Classes	Place
Pre-Medical Co joint	Inorganic Chemistry	Tues. & Thurs. 9.30 a.m. First Lecture, Tues., Jan. 8th at 9.30 a.m.	Chemistry Theatre	Tues. & Thurs. 2–5 p.m. First Class Thurs., Jan. 3rd	Chemistry Laboratory
	Elementary Organic Chemistry	Tues. & Thurs., 2 p.m. First Lecture, Tues., Jan. 8th	Chemistry Theatre		
	Physics	Tues. & Thurs., 10.50 a.m. and Tues. 12 noon. First Lecture, Thurs., Jan. 3rd	Class Room IV	Mons. 10–1 p.m. and 2–5 p.m. First Class, Mon. Jan. 7th	Physics Laboratory
Conjoint	Biology	Weds. 9.30 a.m., Thurs. 12 noon, Fri. 9.30 a.m. First Lecture, Wed., Jan. 2nd	Biological Laboratory	Mons. & Fridays 2–4 p.m. First Class, Fri., Jan 4th	Biological Laboratory
M.B. London	Chemistry	Tues. & Thurs., 9.30 a.m. First Lecture, Tues. Jan. 8th	Chemistry Theatre	Mons. 10–1 p.m., Tues. 2–5 p.m. First Class, Mon., Jan. 7th	Chemistry Laboratory
	Physics	Tues. & Thurs. 10.50 a.m., and Tues. 12 noon. First Lecture, Thurs., Jan. 3rd	Class Room IV	Thurs. & Fridays, 2–5 p.m. First Class Thurs., Jan. 3rd	Physics Laboratory
	Biology	Weds., 9.30 a.m., Thurs., 12 noon, Fri., 9.30 a.m. First Lecture, Wed., Jan. 2nd	Anatomical Theatre	Weds. & Fridays, 10–1 p.m. & Sats., 11–1 p.m. First Class, Wed., Jan 2nd	Biological Laboratory

GUY'S HOSPITAL DENTAL SCHOOL

TIME TABLE—SPRING TERM, 1929.

Subject	Lectures	Place	Practical	Place
INORGANIC CHEMISTRY	Tuesdays and Thursdays at 9.30 a.m., commencing on Tuesday, January 8th	Chemistry Theatre	Tuesdays and Thursdays at 2 p.m., commencing on Thursday, January 3rd	Chemistry Laboratory
ELEMENTARY ORGANIC CHEMISTRY	Tuesdays and Thursdays at 2 p.m., commencing on Tuesday, January 8th	Chemistry Theatre		
PHYSICS	Tuesdays and Thursdays at 10.50 a.m., and Tuesdays at 12 noon, commencing on Thursday, January 3rd	Class Room IV	Mondays from 10 to 1 p.m., and from 2 to 5 p.m., commencing on Monday, January 7th	Physics Laboratory
ANATOMY	(1) *Junior Lectures*— Mondays at 9.30 a.m., Wednesdays at 11 a.m., commencing on Wednesday, January 2nd (2) *Demonstrations*— *(*a*) Bones— Tuesdays at 9.30 a.m., commencing on January 8th *(*b*) Soft Parts— Thursdays at 9.30 a.m. and Fridays at 10 a.m., commencing January 4th	Anatomical Theatre Anatomy Demonstration Theatre Anatomy Demonstration Theatre	Daily from 9 a.m. to 5 p.m., commencing on Tuesday, January 1st	Dissecting Room
PHYSIOLOGY	Thursdays, 10.30 a.m., commencing on Thursday, January 10th	Physiology Theatre	Thursdays at 11 a.m., commencing on January 10th	Physiological Laboratory
HISTOLOGY	Times to be announced later	Biology Laboratory		
PRACTICAL SURGERY	Times to be announced later			
GENERAL SURGERY	Tuesdays at 1.15 p.m., Thursdays at 12 noon Fridays at 1.15 p.m. commencing Thurs., Jan. 10th	Class Room IV Class Room IV Clinical Theatre		
DENTAL SURGERY ..	Tuesdays at 4.15 p.m., commencing on January 8th	Pathological Theatre		

* N.B.—New Regulation L.D.S. Students in their Second Term of Human Anatomy must attend (*a*), and may attend (*b*) if they so desire.
Old Regulation L.D.S. Students and New Regulation Students in their Third Term of Human Anatomy must attend both (*a*) and (*b*).

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLIII *26th January 1929* *Number 1057*

PASSIM

ASTHMA is the great wheeze of the moment. In a recent number we commented on the grant of £2,500 made to this Hospital by the Halley-Stewart Trust for the establishment of a special clinic for the investigation of asthma. The good work advanced another step when the present position of asthma, its causation and its cure, was discussed at a public meeting at the Mansion House on January 15th. With the aid of further grants from the Medical Research Council, it is hoped to establish other research centres, both in London and the provinces, in addition to those at Guy's and Great Ormond Street Hospital for Sick Children. Those mainly concerned with the problem at Guy's are Dr. Hurst, Dr. Barber and Dr. Gillespie, and we feel that no grass at all will be allowed to grow under their feet—at least unless it be first emulsified and proved innocuous.

FURTHER news of the Residents' Play is now given us. The piece will be entitled *The Poetry of Pros, or This Year of Greys*, and the performances, as we stated in our last number, will take place in the Physiology Theatre on February 5th, 6th, 7th and 8th. Applications for seats for these performances should be made in writing immediately—it is already rather late—to C. R. E. Freezer, The College. The dress-rehearsal on Monday, February 4th, will be open to anyone who cares to go, and admittance will be without ticket. Each performance begins at 8.15 p.m.

WE have been asked to announce that Dr. G. F. Buchan, M.D.(Glas.), M.R.C.P., D.P.H., has been appointed Lecturer on Public Health in the Medical School in place of Dr. W. W. Jameson, who has resigned the post owing to his appointment as Professor of Public Health in the University of London. Dr. Buchan, we understand, is at present Medical Officer of Health for Willesden, and has had a wide experience of the teaching of public health.

WE hear that Mr. A. T. Fripp, F.R.C.S., has been appointed to fill the post of Orthopædic Registrar, rendered vacant by Mr. Lambrinudi's recent appointment as Assistant Orthopædic Surgeon. We offer him our hearty congratulations.

FOR weeks now a deafening buzz of conversation in the Home could but excite our curiosity. Clearly, there was something in the air, possibly a scandal of the first order. At last, quite by accident, we know. Although they seemed for some time to have fallen upon our attentive ears with an ever increasing frequency, not until the day of our great discovery did we realise the immense significance in store for the magic words "Number Eight." And now, it seems, this thing is a reality. For a select few among the black-band brigade there exists a new home from home with marvellous geysers, unrivalled opportunities to wallow in chintz, and, let it be whispered only, *separate latchkeys.*

With the tone of St. Thomas's Street so definitely enhanced, we foresee rents soaring and hard times ahead for those struggling sawbones who have hitherto held out so gallantly against the hop invasion.

OUR optimism about the Rugby team has been reinstated. We feel that their victory over Birkenhead Park was the first step on the upward path from the severe depression into which they had fallen, and that once out of the slough the team will play as it should on paper, and as it undoubtedly can play on a more practical medium. We note that we have drawn a bye in the first round of the Inter-Hospital Cup Competition, and that in the second round we are due to play Middlesex Hospital on Thursday, February 14th. All the best Editorial wishes go with the team.

THE following appointments have been made :—

House Physicians—
To Dr. French, Mr. G. N. Wood.
Dr. Poulton, Mr. L. Brown.

House Surgeons—
To Mr. Fagge, Mr. L. J. Pitt-Payne.
Mr. Turner, Mr. F. G. Booker.

Out-Patient Officers—
Mr. E. T. Conybeare.
Mr. H. N. W. Harley.
Mr. L. B. Langmead.
Mr. J. E. Morton.

Assistant House Surgeons—
To Mr. Hughes, Mr. J. C. Heather.
Mr. Davies-Colley, Mr. E. H. Sears.
Mr. Bromley, Mr. T. T. Stamm.
Mr. Slesinger, Mr. W. D. G. Jones.
Mr. Ogilvie, Mr. K. E. Lane.

Obstetric Resident—
To Mr. Chapple, Mr. O. Plowright.

House Surgeon in the Ear, Nose and Throat Dept.—
To Mr. Layton, Mr. J. E. Crooks.

House Surgeon in the Genito-Urinary and Orthopædic Departments—
Mr. F. W. Gilbert.

Ophthalmic House Surgeon—
Mr. R. L. Harward.

Clinical Assistant in the Ear, Nose and Throat Department—
To Mr. Mollison, Mr. J. G. Kingsbury.

Clinical Assistant in the Deep Therapy Dept.—
Dr. Tallent Nuthall.

WE regret to have to record the death of Sir David Maurice Serjeant, K.B.E., M.D., at the great age of 99. His was a most varied and interesting career. Born in Huntingdonshire, the son of a lawyer, he was early apprenticed to a Surgeon in Peterborough, but deserted medicine for Australia at the age of 22. Out there he did most things from playing cricket to gold mining. In 1859 he returned to England and medicine at Guy's, where he qualified M.R.C.S., and then took his M.D. at St. Andrews in 1862. Having spent many years as a ship's surgeon with the P. & O., he finally returned to take up practice in Camberwell. He was later appointed District Medical Officer and Public Vaccinator, with charge of what is now St. Giles Hospital. This post he held for a great many years. In 1922 he was created K.B.E.

Streptococcal Infections of the Skin

A Clinical Lecture by Dr. G. B. Dowling

GENTLEMEN,—The common pyogenic infections of the skin form a large and important branch of dermatology. Like any other branches of the subject, they do not always excite the interest they deserve. Nevertheless, they have advantages over many other cutaneous diseases in having definitely known causes and in their simplest forms an efficient therapy, and for these reasons alone they merit careful study.

Two organisms are responsible for these infections, staphylococci and streptococci, both of which have an elective affinity for the skin and mucous membranes—that is to say, they attack these structures naturally, just as typhoid bacilli, dysenteric bacilli and other organisms attack the various structures for which they have a special affinity. In normal skin you will actually find only one of these organisms present, namely, staphylococci, which are always present in isolated elements in the mouths of the hair follicles. However healthy the skin may be, many of the hair follicles harbour staphylococci, and these organisms cannot be removed from the skin by washing; streptococci, on the other hand, are not found on cleansed healthy skin. Staphylococci have a predilection for the hair follicles, and the lesions caused by them are generally related to these structures, the chief of them being osteofolliculitis (Bockhardt's impetigo), sycosis, furunculosis, carbuncle and acne necrotica.

Streptococci do not appear to attack the hair follicles at all, but have a predilection for the natural folds of the skin, the retro-auricular folds, the labial commissures and the angles of the nares are frequently infected with the production of fissures, but other folds may also be attacked. These fissures are common and are liable to cause relapses of streptococcal infection. Although they may appear to heal perfectly, the scars resulting from them harbour streptococci, which under favourable conditions may again multiply and produce fresh fissures.

Streptococcal infections take place by contagion, by secondary infection of pre-existent lesions such as scabies and eczema and by extension from mucous membranes, especially those of the mouth and nose; they often follow measles and whooping cough, conditions in which the

mucous membranes of the mouth and nose are infected with streptococci.

Streptococci give rise to five types of cutaneous lesion :—

1. The ordinary form of impetigo ;
2. Ecthyma ;
3. Fissures ;
4. Confluent patches affecting more or less wide areas, which may be moist and covered with crusts or predominantly dry and squamous.
5. Furfuraceous scaly patches.

IMPETIGO

The primary lesion of impetigo is the intra-epidermal vesicle or bulla containing clear serum. and situated just beneath the horny layer of the epidermis. Its contents become turbid within a few hours, the bulla quickly ruptures and the serum coagulates to form a crust. The subjects may be of any age, but school children are more often attacked than adults. Sabouraud gives an excellent description of a characteristic case: "The patient is a child of school age, dirty and ill-kempt ; the eyes weep, the nose runs, the face is covered with round or oval discoid crusts, which vary from an amber yellow to brown-red in colour, and which often form confluent masses. At first sight their position appears to be a matter of chance, as it may be at times ; however, a more careful examination often shows their predilection for the natural orifices and folds. There is an almost constant localisation to the nasal orifice ; the patient suffers from nasal catarrh and obstruction, he sniffles constantly, and his respiration is laboured. Often the corners of the lips are fissured and covered with crusts, and when the mouth is open the fissures bleed ; the eyes may also be attacked, usually only the eyelids, the lashes being stuck together by coagulated crusts, while a drop of pus occupies the inner canthus. At other times the eye itself may be attacked, with photophobia and inclination of the head towards the affected side. On the scalp discoid amber crusts are present. The retro-auricular folds have often the same appearance as the buccal commissures. Under the crystalline crust is a thin fibrinous membrane, and below this a fissure which bleeds when the ear is pulled aside. Other lesions are found on the hands, particularly about the nail folds . . . and more occasionally they are disseminated about the body and lower limbs, particularly about the ankles and feet."

Around a crust impetigo often continues to extend in the form of an incomplete blister, the horny layer being detached from the deeper portion of the epidermis and exhibiting a frayed edge directed towards the central part of the lesion. This blister edge is characteristic of streptococcal infections in general, and often affords a guide to the diagnosis of doubtful cases. Relapses may take place, especially in the presence of a chronic impetiginous rhinitis and from the breaking down of post-auricular or labial fissures.

Special Forms of Impetigo—

It need hardly be said that there are mild, almost abortive, forms of impetigo and extremely severe types in which the occurrence of large bullæ is a predominant feature.

Pemphigus Neonatorum—

An important special type of impetigo is the condition usually termed pemphigus neonatorum. Infection may take place by extension from a septic umbilical cord or may perhaps be transmitted by midwives, since small localised epidemics occur from time to time. There are severe and extensive cases with large flaccid bullæ which rupture easily and may become transformed into ulcers, and abortive forms, which exist in the form of circinate lesions consisting of a dry collar of detached epidermis, encircling a dry central reddened area. The severe cases are occasionally fatal ; mild cases are common and readily cured. It should be mentioned that the streptococcal origin of pemphigus neonatorum is not universally accepted, certain authorities attributing the condition to staphylococcus aureus. Objectively, identical lesions may perhaps be caused in the infant by either organism.

Dermatitis Exfoliativa Neonatorum (Ritter's Disease)—

A rare condition, occurring in infants, believed by many to be of streptococcal origin, is that known as exfoliative dermatitis of nurslings. The cases originally described occurred in epidemic form in a foundling hospital, but the condition may also arise sporadically. Umbilical sepsis is held to be the cause of some cases. The greater part of the surface is covered with desquamating flakes and crusts, which overlie a red moist surface. Many of the cases are fatal.

Histology—

The histology of impetigo may be described very briefly. The primary lesion is an intra-epidermal dome-shaped blister ; the roof is formed by the horny layer and the floor by the malpighian layer of the epidermis. At first the contents of the blister consist of clear serum, but this rapidly becomes turbid owing to the advent of leucocytes, which migrate through the epidermal cells without disorganising them. The leucocytic invasion is generally attributed to the growth of staphylococci in the serum. A little later the serum coagulates to form the crust. In the dermis, slight congestion and perivascular infiltration with polymorpho-

nuclear leucocytes is present in the early stages, later becoming more accentuated.

Bacteriology—

If the contents of an early bulla be cultivated, streptococci may sometimes be grown, but it is not improbable that they will be outgrown by staphylococci. Recently, however, the difficulty of growing streptococci from material contaminated with staphylococci has been overcome by adding crystal-violet to the culture medium in the strength of 1 to 100,000; this dye inhibits the growth of staphylococci without interfering with that of streptococci. An older method of overcoming this difficulty was by introducing the material to be cultivated into a pipette half filled with serum and sealing the end. After incubating for eight or nine hours it was found that a pure growth of streptococci was present near the sealed end, whilst staphylococci were present in abundance near the open end. Streptococci grow best under anaerobic conditions, while staphylococci are aerobes. By these means streptococci have been shown to play a part in lesions in which their presence remained for long unknown.

Ecthyma—

This condition begins as impetigo, but the infection breaks through the epidermis and forms an ulcer covered by a crust. The borders of the ulcer are congested and raised. If the crust be removed, the ulcer appears to be rather deep, but the impression of depth is partly due to the raising of the outer border.

Ecthyma appears chiefly on the lower limbs, particularly in children. Its presence there is attributed to vascular hypostasis. After the ulcers have healed, they leave scars, which may last for a lifetime and which are sometimes mistaken for post-syphilitic scars.

Streptococcal Fissures—

These lesions have already been described as part of an attack of ordinary impetigo. They may, however, occur independently of impetigo.

The conditions which have been mentioned up to the present are simple reactions for the growth of streptococci in the skin. In certain individuals, however, this organism is capable of determining reactions which are more complex in type. That the conditions about to be described are caused by streptococci is assumed on account of their evolution from typical streptococcal lesions such as impetigo or fissures, and the results of bacteriological study. Unfortunately, there is no standard terminology that one can apply to them. There are two types, the first of which is known by various names, such as infective dermatitis, impetiginous eczema, confluent impetigo; the second as pityriasis alba, dartres volantes, pityriasic impetigo. I shall refer to the first type as confluent impetigo, following Sabouraud's terminology, and to the second as pityriasic impetigo, though it must be borne in mind that the cutaneous reaction is in the form of a diffuse catarrhal inflammation of the skin bearing little clinical resemblance to the ordinary form of impetigo.

Confluent Impetigo—

The condition affects two regions in particular, the legs and the scalp. On the legs a simple impetigo may become transformed into extensive confluent patches, in which a preliminary stage of oozing becomes eventually transformed into a dry exfoliating stage. The condition shows little tendency to spontaneous cure, and may last months or even years. On the scalp a similar condition begins often as a retro-auricular fissure, from which extension upwards into the scalp takes place as well as on to the ears, forehead and face, or it may begin as primary impetigo of the scalp, caused, for instance, by pediculi. Sometimes extension takes place very slowly and affects only the parietal regions, but the whole scalp may be attacked with extreme suddenness. As on the legs, the initial stage is one of serous oozing, followed quickly by the formation of confluent crusts, which cover the whole scalp. This stage becomes replaced in the course of weeks by a stage of desquamation. The very acute cases may be followed in a few weeks by shedding of the hair.

It is impossible to define the nature of the sensitivity towards streptococcal infection which is present in these cases. They occur mainly among poorly-nourished children living under crowded conditions. They also frequently follow repeated attacks of ordinary impetigo, particularly those cases which follow measles and whooping cough, so that sensitivity is evidently determined in part by repeated infection. An analogous state of affairs exists in the case of epidermal infection with staphylococcus aureus. A simple staphylococcal folliculitis if neglected or unsuccessfully treated may become transformed into sycosis, a condition which is chronic to the last degree. The difference between sycosis and simple folliculitis is not one of anatomical form, but of the quality of epidermal resistance to staphylococcus aureus. It should be added that staphylococci are found in abundance in confluent impetigo and play a part in the evolution of the condition, particularly by causing folliculater sycosis of the scalp, marginal blepharitis, and, in adults, folliculater sycosis of the beard. It is always difficult to estimate the prognosis of a given case. Some respond well to treatment, others persist for months and even years. They not infrequently clear up spontaneously for no obvious reason. The per-

sistent cases are especially liable to relapse, but I have seen them clear up at puberty and remain well for years. Judging, however, from the history of older cases, it is clear that a liability to relapse exists even after years of freedom.

Pityriasic Impetigo—

The most important of the furfuraceous scaly conditions caused by streptococci is that known as Perléche (*pourlecher*—to lick). The lesions are dry red scaly patches situated about the lips, especially at the angles of the mouth, where fissures are generally present. From these other fissures radiate outwards and divide the lesion into sectors. Another type of pityriasic lesion occurs after an ordinary attack of impetigo. After the crusts have fallen, dry scaly patches are left which may persist for weeks. Streptococci have been cultivated from such residual patches. Similar patches occur, particularly in the neighbourhood of mucous outlets in the absence of fissures or pre-existent impetigo ; school epidemics of pityriasic impetigo have even been reported. The condition may also depend upon a large central primitive lesion such as confluent impetigo of the scalp. In such cases the dry scaly lesions occupy the neck, face, shoulders, back and chest, and become less conspicuous in proportion to their distance from the central lesion.

TREATMENT

The local treatment of streptococcal infections does not necessitate the use of a large number of remedies.

Impetigo—

The essential part of the treatment of impetigo is the frequent removal of the crusts by an antiseptic lotion ; this should be done about half a dozen times a day and at night the lesions may, after cleansing, be covered with a protective paste or cream. The following antiseptics are suitable for the purpose :—

Lysol ½ per cent., solution of mercury perchloride 1.4000, or alibour water 1 in 5–10, of which the formula is :—

Copper sulphate 2 pts. ;
Zinc sulphate 7 pts. ;
Saturated camphor water 300 pts.

The following protective paste may be used at night or during the day as well if frequent cleansing is impossible :—

Yellow oxide of mercury 2 pts. ;
Zinc oxide and starch aa 25 pts. ;
Soft paraffin to 100 pts.

The treatment of pemphigus neonatorum is that of impetigo, but a rather more dilute antiseptic should be used. For extensive cases Sabouraud recommends bathing the crusts off in a bath containing copper sulphate in the strength of 1.10000.

The local treatment of ecthyma is also that of impetigo, but when ulcers are present on the legs treatment in bed is essential.

Impetiginous fissures may be treated by painting the fissures daily, after bathing off the crusts with a 2 per cent. or 3 per cent. solution of nitrous ether or 0.5–1 per cent. solution of iodine in alcohol, followed by application of tar or icthyol paste.

Perléche and other pityriasic lesions offer greater difficulty than the preceding conditions. They respond best to the application of preparations containing tar or icthyol, for example :—

Solution of coal tar 10 ;
Zinc oxide and starch aa 25 ;
Soft paraffin to 100 ; or
Icthyol 2 ;
Zinc oxide and starch aa 25 ;
Soft paraffin to 100.

Confluent impetigo of the legs and of the scalp may be extremely difficult to cure. The application of antiseptic preparations in the strength used for impetigo may be harmful, mercurial preparations in particular being liable to increase the degree of inflammation.

In the scalp cases treatment is greatly facilitated by keeping the hair cut short. In the stage of serous oozing, applications of very weak antiseptic are advisable, such as 2 per cent. boric acid or alibour water 1 in 10–15. The dressings should be changed every two hours, and at each change the whole scalp should be gently swabbed with the antiseptic ; an occlusive covering such as gutta-percha tissue should not be used.

If treatment is commenced when the scalp is covered with a crust, the first step should be the removal of the crust. The hair should be cut and starch and boric poultices applied, changing every few hours until the underlying scalp is exposed. This surface may be oozing and suppurating in parts or it may be comparatively dry. In the former case, the wet dressings already described should be applied until the process has definitely become dry and desquamating in parts. At this stage it is desirable to protect those parts in which new epithelium is attempting to establish itself by covering the scalp with a protective cream ; the wet dressings are continued but, owing to the presence of the fatty preparation, they now act only on the portions of the surface which are still in a stage of serous oozing or suppuration. The following is a suitable cream :—

Icthyol 1.5 parts ;
Hydrous wool-fat ointment G.H.P. to 100.

As They Were

2. C. H. F. (as seen by W. L. Webb twenty years ago.)

When the condition has become purely desquamative, the following preparation is often effective :—

Oil of cadi 10 ;
Solution of coal tar 10 ;
Sulphur and salicylic acid aa 2 ;
Soft paraffin 20 ;
Coconut oil to 100.

This should be applied at night, followed by a shampoo in the morning. It is often best not to apply any dressing during the day time.

For the cases of confluent impetigo affecting the non-hairy skin, preliminary dressings with weak antiseptic as in the scalp cases may be followed in the stage of desquamation by application of tar or icthyol paste ; when the legs are attacked, treatment in bed is desirable.

General treatment directed towards the improvement of the patient's health and hygiene should not be neglected ; almost all cases of this very intractable type of pyogenic infection of the skin are greatly benefited by heliotherapy, especially at the sea side. A case of a very intractable type under my care cleared up completely under these conditions.

Graduated sun bath treatment as carried out for tuberculous conditions at Alton or Hayling Island is, of course, desirable, but it is not essential. In the case that I have mentioned the parents went to live at the seaside and carried out graduated sunlight baths combined with a daily bathe in the sea, according to the instructions given to them.

On the other hand, artificial light baths, though apparently helpful in some cases, have proved rather disappointing.

Enlargement of the Prostate. Certain Difficulties

A Paper by A. Ralph Thompson, Esq., Ch.M.

GENTLEMEN,—The diagnosis and treatment of enlarged prostate is not so easy as it might appear to be. This is especially the case when there is retention of urine.

The full bladder—or, rather, the distended bladder—pushes the prostate downwards, and what may be a normal prostate is apt to become prominent and give rise to a wrong impression as to its real size.

I object to the term " full bladder," as I imagine that it is always full, though sometimes fuller than usual. I fancy that the bladder always contains fluid, and in cases of retention of urine I prefer the term " distended " to " full."

But, even so, there is a difficulty in nomenclature when we see a patient who has had a little fluid withdrawn from the bladder when he is suffering from retention. Take the case of a man who may have as much as 1500 c.cm. in his bladder. The mere withdrawal of 200 c.cm. may lead to relaxation of the bladder wall, and there may be no bladder to be felt, though it may contain as much as 1300 c.cm., and quite a wrong impression may be gathered without knowing the history of the case. This incomplete removal of urine from a distended bladder is certainly a difficulty in the way of diagnosis.

A distended bladder pushes down the prostate further along the rectum, and if the bladder be missed in examination of the abdomen, there may easily be a wrong diagnosis made.

An attempt must be made to get the true history of the case and the amount drawn off recorded, as with retention of urine due to an enlarged prostate, if only a small amount has been drawn off we must be particularly careful to examine for a bladder that may contain plenty of fluid and yet be hardly palpable.

If we fix a mercury manometer to a catheter in the bladder we find that the pressure may be very little, in accordance with the clinical observation that the bladder may contain much fluid, and yet be only with difficulty palpable.

Be certain of the bladder before attempting to diagnose enlarged prostate.

The very term enlarged prostate is a difficulty. We should not call a tumour of the breast an enlarged breast, and we do not call a cancer of the stomach an enlarged stomach. The condition should be called " enlargement of the prostate."

I think that all students should get into the way of calling the condition of " enlarged prostate " " enlargement of the prostate," and go on with its exact diagnosis later, and call it simple or cancerous, according to their observations.

Whether the condition be simple or malignant, the fluid must be withdrawn from the bladder before we attempt to make an exact diagnosis of the condition as regards size and actual disease.

But the prostate may be enlarged without symptoms of retention, and then we are up against

the early irritative symptoms of enlargement of the prostate.

Frequency of micturition is associated in many people's minds with overflow, but this is by no means always the case, and the point is an important one, as well as a difficult one.

The diagnosis of enlargement of the prostate is frequently made only when there are bladder complications, and when these have occurred it is very difficult to exclude kidney complications. The conception of an overfull bladder is beyond most patients' comprehension, though statements may be made that indicate that there is some impression conveyed to a patient's mind that he is not completely emptying the bladder.

I am quite certain that in many cases the frequency, especially at night, is due actually to the enlargement of the prostate, for when a patient is reclining in sleep the prostate becomes almost the lowest part of the body, and naturally tends to become congested. This congestion will irritate the bladder and produce the desire to micturate.

This may happen when the prostate can hardly be felt per rectum.

There is another important symptom of enlargement of the prostate which comes out very strongly in the notes made through a number of years at the Guy's Hospital Out-Patient Department.

A patient will state that when he gets up there is dysuria, but that as the day goes on there is a much better flow. This remark indicates that the prostate is congested in the early morning, and has given rise to a certain amount of obstruction to the flow of urine, and as it becomes less congested, with the general improvement in the circulation normal exercise brings about, the flow from the bladder improves in force.

Mere dysuria may be a symptom of enlargement of the prostate. The patient finds it difficult to pass water. The urethra is narrowed by the enlargement.

There may be an enlargement of the prostate to a very considerable degree and the bladder is not distended. It may, in fact, be small.

In such a case you may be fairly certain that there is stone in the bladder as well as an enlargement of the prostate. I have come across two or three such cases.

This raises an important point, and always, before the diagnosis of an enlargement of the prostate and its complications has been made, we should cystoscope the bladder to see if there be a stone or diverticula. I have seen a narrow diverticulum extending down to the right inguinal region as one usually sees in hernia of the bladder through the inguinal opening.

Such a complication may be very difficult in the way of proper treatment of enlarged prostate and its complications.

In early cases of enlargement of the prostate, cystoscopy should be practised as a routine measure to see the exact situation of the prostate. Many a prostate projects into the bladder that cannot be felt per rectum.

As regards the operation that should be done for enlarged prostate, I do not propose here to discuss the question as to the route. I only insist that there should not be two schools of operating surgeons—one that goes by the suprapubic route and one that goes by the perineal route in every case. I believe that there should be surgeons who are competent to say which route in a particular case should be adopted.

I confine myself to the suprapubic route, as this is most commonly practised in England at the present time.

In this connection the operator may find something entirely different when he has opened the bladder to what he had expected to find.

He frequently gets out of the difficulty by calling the prostate fibrous, and proceeds to remove a normal prostate bit by bit.

I do not believe in the fibrous prostate. I have never seen one, and have given up removing normal prostates and saying that they were fibrous.

In many cases where the bladder has been opened and no enlargement of the prostate is to be found, I should carefully explore along the urethra, and in many cases I should find that the prostate was enlarged along this channel.

Inexperienced operators will work backwards in their attempts to find justification for having opened the bladder. They should work downwards and forwards and go along the urethra. The working backwards only lands them in difficulties with the vesicles, and much unnecessary bleeding may occur with no benefit to the patient, either generally or locally.

Nevertheless, when you have opened the bladder do not call what you are removing, a fibrous prostate.

I do not say such do not occur, but I only say that I have never seen one.

I have seen enlargement of the prostate that has spread along the urethra missed, and the patient have to be operated upon again.

After the operation of removal the tube is frequently a matter of difficulty, though I am not prepared to say that one is really needful when the bladder is sewn up.

Here I would put in a plea for more frequently sewing up the bladder after suprapubic cystotomy for enlargement of the prostate.

With careful assistance after the operation, there is little reason why the bladder should not be sewn up, except that such operation is usually carried out when there are bladder or kidney complications.

And this point raises another difficulty. Unless you are perfectly certain of the assistance that you are going to have after the operation, you had better look after the case yourself, as you only know exactly what took place at the operation—but let me go back to the tube. This is often inserted directly backwards, when it should lie obliquely downwards and backwards, not with its end against the bladder wall, but actually in the cavity from which the swelling of the prostate has been removed.

The after-treatment of an open wound of the bladder may be divided into certain stages—the tube stage, the catheter stage and the final closure of the wound. However long these stages may take to be done with, never let any stage be attempted till the pus has completely disappeared. If you let the bladder heal up with pus about, there is sure to be an interstitial cystitis set up which is very difficult to cure.

Especially is this the case in private nursing homes, where the nurses are keen on getting the bladder to close, irrespective of whether there is pus there or not.

Another very common difficulty after the operation is the projection of the back wall of the bladder through the wound. It may form a valve and the patient may be passing his water normally for a long time, and then there is a leakage through the bladder wound. Be very sure when this occurs that you have still got a bladder fistula, and the tube must be reinserted and the edges freshened, but such a condition may cause much disappointment. Frequently this condition is due to the patient sitting up in bed when the whole weight of the abdominal contents bears upon the back and upper wall of the bladder. Thus, a hernia of the bladder is produced, and all students when writing for an examination in which a question has been asked about hernia of the bladder should mention this occurrence of a hernia of the bladder, of quite an anomalous nature, occurring after prostatectomy.

This word "prostatectomy" is apt to mislead. The whole prostate should not be removed when the condition is simple. Only the obstructing tumour of the prostate should be removed. Following the terminology that has been used in this article, students should get into the way of calling the operation "removal of an enlargement of the prostate."

Intratracheal Anæsthetics

By N. E. Pitt, B.Sc., M.R.C.S.

CERTAIN modifications of the usual methods of intratracheal anæsthetics have recently been tried in the Throat and Ear Department, and the measure of success obtained seems to warrant a short comment.

(1) TRANS-NASAL INTRATRACHEAL METHODS

After a preliminary induction the larynx is inspected by means of a direct vision laryngoscope and an oiled sterile catheter is passed through one or other nostril until its extremity is visible in the pharynx. The head is gently rotated and either flexed or extended until the tip of the catheter lies opposite the glottis. The catheter is then pushed in until the inch mark is just inside the nares. The size of the catheter varies from a No. 16 to a No. 23. The larger the catheter the better, as the pressure necessary in the apparatus to secure an adequate ventilation is proportionately lower. With a large catheter a pressure of 15 mm. of mercury is sufficient, whilst with a No. 16 a pressure of 40 mm. or more may be necessary.

The catheter is best warmed before use; the increased suppleness enables a much easier passage. Indeed, one is practically sure to pass such a catheter through one or other side of the nose. The whole manœuvre is much more easily accomplished if the laryngoscope can be manipulated throughout by the left hand.

The advantages of such a method of anæsthesia for the surgeon working in or through the mouth are clear. One has the safety and ease of control associated with intratracheal anæsthesia, combined with the absence of a troublesome oral catheter. In such an operation as one on a cleft palate the difficulty indicated may assume considerable proportions.

The main criticism I have met is one of the possibility of carrying septic material from the nose down the trachea. In point of fact, one finds that nothing visible adheres to a well oiled catheter.

Moreover, the number of cases in which anæsthesia has been maintained by this method is sufficiently large even now to show that complications must be at least rare. In cases followed up during the last four months not one developed any complication immediate or remote, so the objection is really a theoretical one.

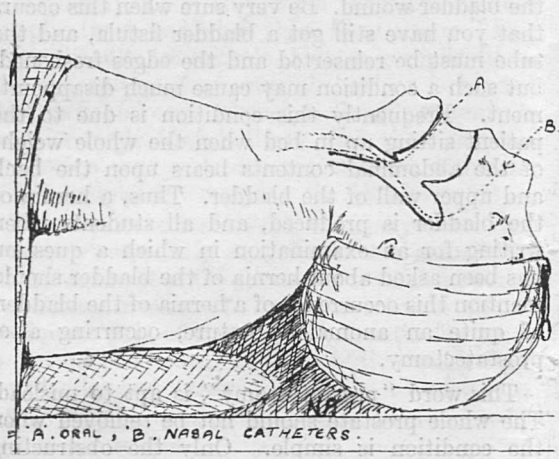


FIG. 1

The diagram (Fig 1) shows that once the catheter is in position the flow of any liquid along it is away from the larynx in the case of the nasal catheter and towards it in the case of the oral one.

(2) INTRATRACHEAL GAS AND OXYGEN AND GAS-OXYGEN-ETHER

Gas and oxygen may be given intratracheally by means of a modification of Boyle's apparatus. The ordinary routine method is to induce anæsthesia with a mixture of chloroform and ether given by the open method, and then to give a mixture of about 70 per cent. nitrous oxide with 30 per cent. of oxygen, together with some ether vapour, through an intratracheal catheter. It is usually sufficient if the gas is blown across the surface of the ether. In about one minute the gas is increased and oxygen diminished to about 10 to 15 per cent. Ether is then excluded. Subjects can frequently be kept under by this method for an hour or longer, but they are not fully relaxed when the effect of the C. and E. induction has passed off. They sometimes tend to be a little blue unless a little more oxygen is given, together with a little ether vapour.

That gas-oxygen-ether anæsthesia is truly worthy of its name in many instances is seen from the rapid recovery after the anæsthetic is stopped. This method has been employed in a large number of throat operations, and the general opinion is that there is probably less bleeding than with air-ether anæsthesia.

When an elastic bag is included in the apparatus there is less tendency for the stoppers to blow, and one can get a high enough pressure in the apparatus to get adequate ventilation of any subject—*i.e.*, to prevent any active inspiration. Indeed, one can produce complete apnœa at will by giving a good blast of oxygen (Fig. 2).

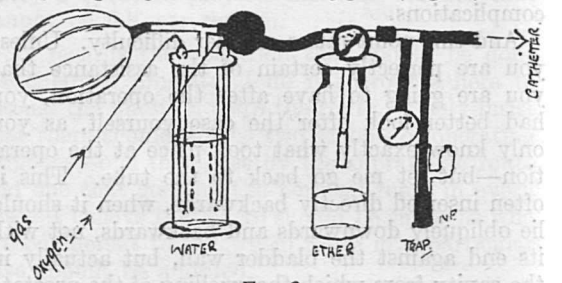


FIG. 2.

A few other points about the apparatus are as follows. The water in the mixing jar should be hot so as to take the chill off the gas mixture. In the opinion of the writer, the bag should be inserted between the two jars to prevent the possibility of sucking back ether which exists when the bag is in its usual position adjoining the catheter, if the first stopper blows. A manometer and a mercury trap should also be included in the apparatus. The trap is so constructed that the pressure at which it is to yield is adjustable.

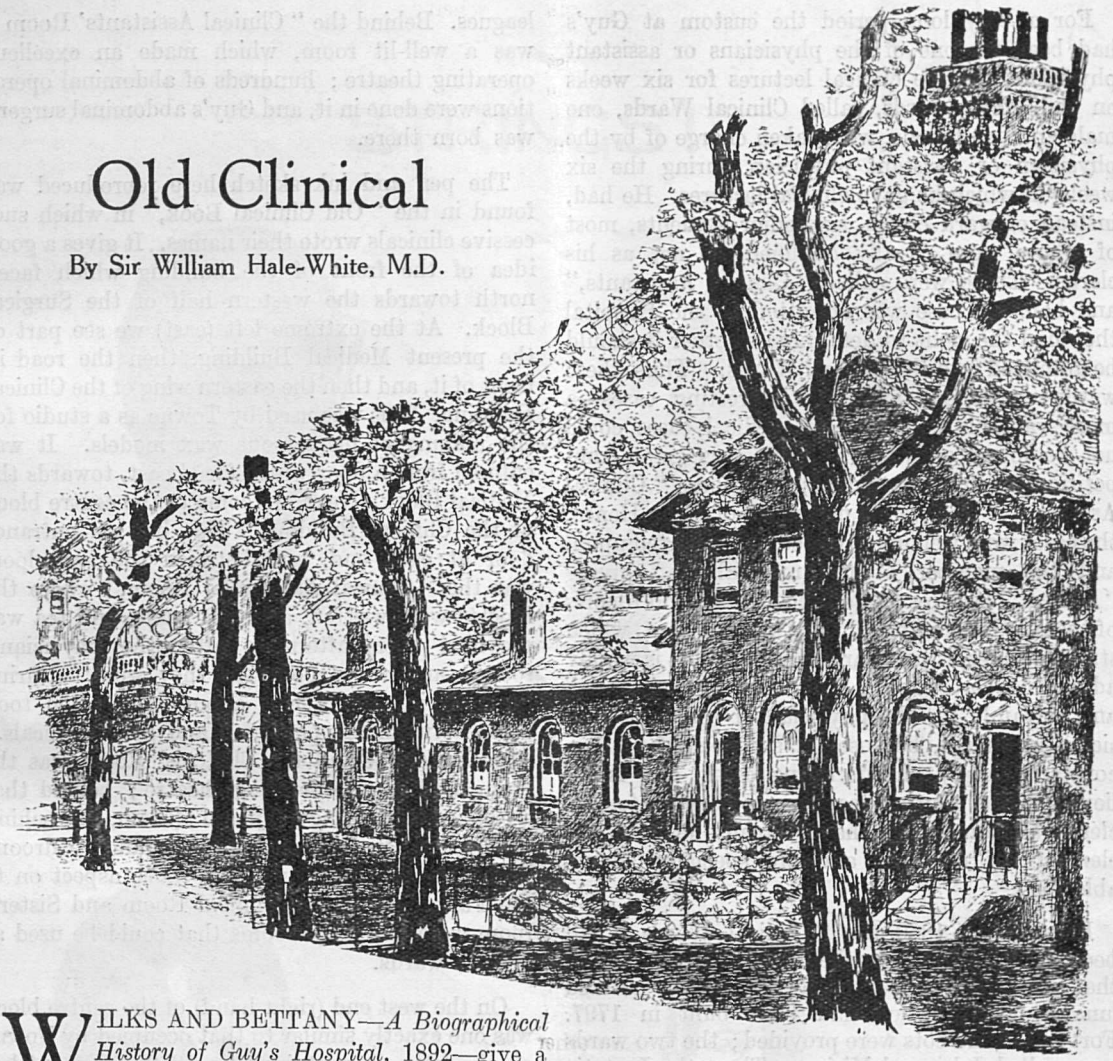
There is another method of giving gas and oxygen intratracheally. Strictly speaking, it is not an intratracheal method. The larynx is *intubated* with a large rubber tube passing through the nose and occupying the larynx completely. Through this tube the patient breathes a mixture of gas and oxygen from a bag fitted with valves, much as with the ordinary mask. In this method the pressure of gases used is just that which is sufficient to keep the bag comfortably inflated, and the patient continues to respire actively. In this method also the induction is carried out with ethyl chloride or chloroform ether mixture, followed by ether. Rowbotham sometimes uses gas for induction, but under those circumstances a preliminary cocainisation of the larynx is performed and morphia is given with the pre-anæsthetic injection. After such a procedure the patient has to be watched almost constantly for 24 hours.

(3) INTRATRACHEAL GAS-OXYGEN-CHLOROFORM

This may be given for cases requiring diathermy. With the exception of substituting a bottle of chloroform for that of ether, one uses the same apparatus as has been described in connection with gas-oxygen-ether anæsthesia. When using chloroform, the pulse, of course, should be watched continuously.

Old Clinical

By Sir William Hale-White, M.D.



Drawn by Harold Mann.

WILKS AND BETTANY—*A Biographical History of Guy's Hospital*, 1892—give a good account of the "Old Clinical" Building. From them we learn that, in 1774, there was built a separate lunatic house for the accommodation of 20 confirmed lunatics, in accordance with Guy's will. It was rebuilt in 1797 by William Hobson at a cost of £4,388. It contained cells for 20 lunatics. In 1860 the Governors, acting upon the discretionary powers given them by Guy's will, decided to discontinue the reception of lunatics into a general hospital. The cell walls were removed, the loophole, iron-grated windows were enlarged and extended to the level of the floor, and two fireplaces were planted back to back in the centre of each ward. A room in the middle of the building was fitted up for the use of the students who were acting as "Clinical Assistants." It contained a portrait over the mantelpiece of an old gentleman who bequeathed it to the Hospital, along with his body, which he desired should be used for the purpose of dissection. The appropriation of the Lunatic House to the general purposes of the Hospital allowed the walled-in airing ground for lunatics to be used for general patients by pulling down the walls surrounding them; more land bought for the purpose was added, and thus the present "Park" was formed.

For a very long period the custom at Guy's had been for one of the physicians or assistant physicians to give clinical lectures for six weeks on end. Two wards, called Clinical Wards, one male and one female, were taken charge of by the physician or assistant physician during the six weeks in which he gave clinical lectures. He had, instead of ward clerks, six senior students, most of whom were usually qualified, to act as his clerks. These were called "Clinical Assistants," and before a case was admitted to the Hospital they had the right to determine whether it should be admitted into the Clinical Wards. Thus, these wards contained the most interesting cases—a more valuable collection of medical cases could not be found anywhere. There was great competition among the students to become "Clinical Assistants," who were a picked set of men. Hence, the cases were well investigated and reported upon, and the member of the medical staff giving "clinical" lectures had excellent cases and reports of them at his command. This arrangement, which still continues, is peculiar to Guy's, but it is wholly admirable, certainly for the "Clinical Assistants," and certainly for the physician or assistant physician in charge, because for six weeks he has a constant supply of interesting cases, and is relieved of the routine teaching by having for his clerks assistants who have already learned the elements of medicine and are specially chosen, able men.

Previous to 1860 the "Clinical Wards" had been Job and Lydia in the Surgical Block, but in that year they were transferred to the altered lunatic house, which had been built in 1797. Forty beds and cots were provided; the two wards were called John and Miriam. Thus, the Lunatic House became the "Clinical Building," and remained so from 1860 until it was pulled down to make way for the new Massage Department after the Great War. It had become extremely decrepid and had to be demolished, or it would have fallen down. But even its decrepitude had its uses, for Sir Cosmo Bonsor used to take visitors round it, saying, "You see how the Hospital is falling down? You must subscribe."

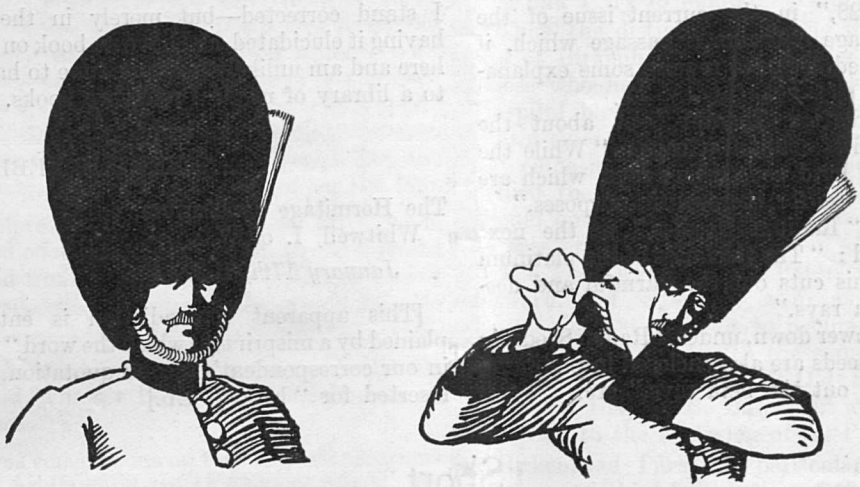
Before the advent of antiseptic and aseptic surgery, abdominal operations—apart from ovariotomy—were almost unknown. The "acute abdomens" were medical cases, and nearly all such usually found their way into John or Miriam, but the coming of antiseptic and aseptic surgery led to the physicians calling in their surgical colleagues. Behind the "Clinical Assistants' Room" was a well-lit room, which made an excellent operating theatre; hundreds of abdominal operations were done in it, and Guy's abdominal surgery was born there.

The pen and ink sketch here reproduced was found in the "Old Clinical Book," in which successive clinicals wrote their names. It gives a good idea of the front of the building which faced north towards the western half of the Surgical Block. At the extreme left (east) we see part of the present Medical Building, then the road in front of it, and then the eastern wing of the Clinical Building. This was used by Towne as a studio for the making of his famous wax models. It was entered from a door which faced east, towards the Medical Block. Next, we come to the centre block of the Clinical Building. This had an entrance door at each end, and between the two doors was the "Clinical Assistants' Room," where the reports were written, analyses made, and tea was provided every afternoon after the physician's round—and very good teas they were. During them capital discussions about cases often took place between the physician and his "Clinicals." Immediately behind the Clinicals' Room was the room used as an operating theatre; behind that a passage connecting John and Miriam, and behind that again, Sister's sitting-room and bedroom, both pleasant, for they had a south aspect on to the Park. Above the Clinical Room and Sister's room were two large rooms that could be used as private wards.

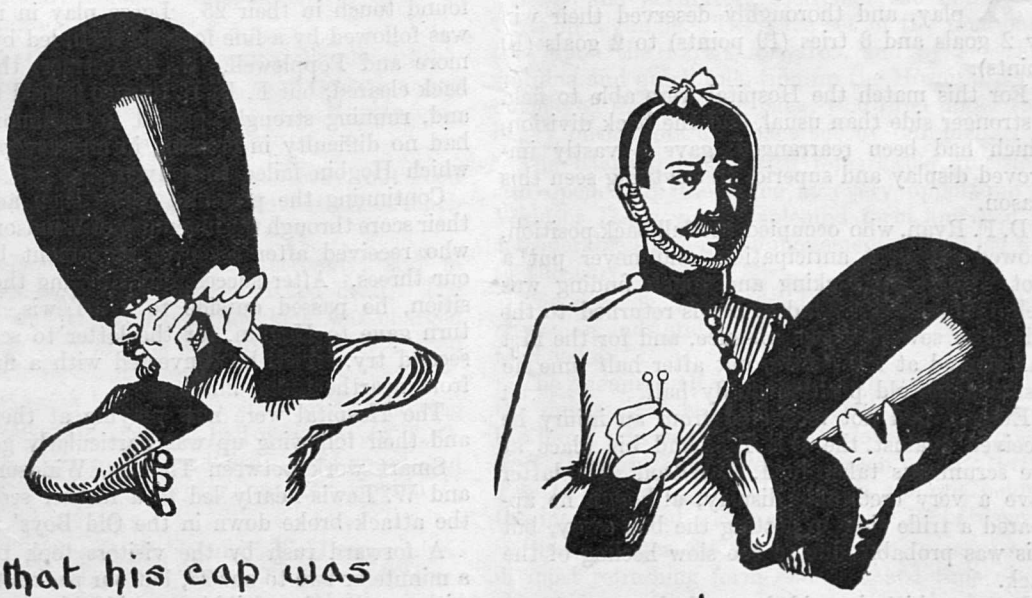
On the west end (right hand) of the centre block was one exactly similar to that occupied by Towne on the left. It contained (in 1880) a house physician's bed and sitting-room, and beyond that Sir Thomas Stevenson's medico-legal laboratory, where many crimes were worked out. This had a separate entrance at the west end of the building.

The centre block projected south, well beyond what might be called the "Towne" and "Stevenson" wings, and from the two angles thus formed between the respective wings and the centre block, two wards projected, Miriam tending south-east from between the "Towne" wing and the centre, and John tending south-west from between the "Stevenson" wing and the centre. Each ward was the same size and each had a curved alcove: each had windows on each side. They were admirably light wards, with plenty of sunshine from the south.

STRINGS!



Looking at a Guardsman - you would never think -



that his cap was tied on - like this!

F.C.T. 1929.

Correspondence

Cancer Conference—Errata

DEAR SIR,—In the report of Mr. Ogilvie's most instructive and illuminating clinical lecture entitled "Lessons of the Cancer Conference, 1928," in the current issue of the GAZETTE, on page 6 occurs a passage which, if correctly reported, seems to require some explanation.

Under "Radiation Therapy," at about the middle of the first column, it says: "While the gamma are the hard penetrating rays, which are of the greatest use for therapeutic purposes."

But, under "Radium Needles," in the next column, we read: "The thickness of the platinum is 0.5 mm. This cuts out the harmful and destructive gamma rays."

And, again, lower down, under "Radon Seeds": "These radon seeds are also enclosed in platinum, in order to cut out the beta rays," etc.

The two latter statements scarcely seem to be on all fours with the first quoted.

It is in no carping, critical spirit that I refer to this point—and, if I have somehow misread it, I stand corrected—but merely in the hope of having it elucidated, as I have no book on radiology here and am unlikely for some time to have access to a library of medical reference books.

Yours truly,

ALBERT E. TEBB, M.D.

The Hermitage Sanatorium,
Whitwell, I. of W.

January 17th, 1929.

[This apparent contradiction is entirely explained by a misprint, in which the word "gamma" in our correspondent's second quotation, has been inserted for "beta."—ED.]

Sport

Rugby

Guy's *v.* U.C.S. Old Boys.

AGAINST the U.C.S. Old Boys on Saturday January 12th, Guy's gave a convincing display, and thoroughly deserved their win by 2 goals and 3 tries (19 points) to 2 goals (10 points).

For this match the Hospital were able to field a stronger side than usual, and the back division, which had been rearranged, gave a vastly improved display and superior to anything seen this season.

D. F. Ryan, who occupied the full back position, showed excellent anticipation, and never put a foot wrong—his kicking and touch finding was well nigh perfect. Windsor Lewis returned to the side after several weeks' absence, and for the first half played at left centre, but after half time he resumed his old position at fly half.

Eustace had not recovered from an injury he received against the O.M.T.'s. and his place at the scrum was taken by I. C. Wilson. The latter gave a very creditable display, although he appeared a trifle slow in getting the ball away, but this was probably due to the slow heeling of the pack.

It was a bitterly cold day and the ground was very hard. Nevertheless, the backs handled the ball with remarkable accuracy, and exhibited their most convincing display of the season. The forwards gave them splendid support, and by strong rushes, and superiority in the tight scrums, kept their opponent's pack somewhat subdued.

Guy's kicked off and, following a scrum in midfield, the visitors were penalised, and Ryan found touch in their 25. Loose play in midfield was followed by a fine forward rush, led by Lashmore and Popplewell. J. A. Farmer, their full back cleared, but F. H. B. Spence fielded the ball and, running strongly, passed to Lashmore, who had no difficulty in crossing in an easy position, which Hogbin failed to convert.

Continuing the pressure, Guy's soon added to their score through the ingenuity of Windsor Lewis who received after a clever movement between our threes. After successfully drawing the opposition, he passed outside to W. Lewis, who in turn gave to Hogbin, for the latter to score the second try, which he converted with a fine kick from nearthe touch line.

The Hospital were now playing at their best, and their following up was particularly good.

Smart work between Thomas, Windsor Lewis and W. Lewis nearly led to a further score, but the attack broke down in the Old Boys' 25.

A forward rush by the visitors took play for a minute or two to our 25, but our pack retaliated with another fine dribble to midfield.

Ryan then cleverly accepted a short punt by one of the Old Boys' forwards and found touch. From the line out Morgan dribbled on and enabled

Hogbin to secure in the loose. He was tackled on the line, but passed out for Robinson to cross near the corner. The kick at goal was not improved upon.

An individual effort by Turnbull for the visitors was spoilt by a knock on near the goal line. Following a scrum, the Old Boys were penalised and Ryan found touch. W. Lewis and Lashmore broke away, and the former tried a short punt over the full back, but although it did not succeed the full back's kick was charged down by Popplewell. Another good round of passing between Thomas, Spence and Robinson followed, but the latter's reverse pass was intercepted on the line.

Just before the interval the Old Boys made determined efforts to score through strong forward rushes, and from one of these G. McKenzie scored an excellent try for the visitors, which he also converted.

After changing ends Guy's immediately attacked, and Windsor Lewis compelled Farmer to touch down.

Ryan was conspicuous on two or three occasions with good fielding and strong kicks to touch. W. Lewis made an excellent attempt to drop a goal from the wing and only just missed.

Twice I. K. Thomas came within an ace of scoring. On the first occasion his pass was missed, but in the second Windsor Lewis broke through and was only collared immediately in front of the posts.

The next incident of note was a splendid dribble from midfield by T. Morgan, who scored a fine individual try in the corner, which Hogbin converted with an equally fine kick.

Several times our threes broke away, but good marking by the Old Boys would not allow much progress.

The visitors then attacked strongly, and in a forward rush the ball was kicked dead. The kick off was disastrous, as the kick was charged down and Wilk picked up and ran in for a good try, which G. Mackenzie converted.

Guy's rallied after this reverse and, following a number of attacks, the ball was sent to T. G. Robinson, who made good use of his speed and scored a good try, too far out for Hogbin to convert.

Guy's Team—D. F. Ryan; W. Lewis, I. K. Thomas, F. H. B. Spence, T. G. Robinson; Windsor Lewis, I. C. Wilson; J. R. F. Popplewell (capt.), C. D. Malone, R. A. P. Hogbin, G. F. Lashmore, A. R. Clarke, T. Morgan, D. S. Clogg, K. P Smith.

Guy's *v.* Birkenhead Park

AT Birkenhead, on Saturday, January 19th, Guy's accomplished their best performance of the season, when they defeated the home side in most decisive fashion by 2 placed goals and 1 dropped goal (14 points) to 1 placed goal and 1 try (8 points).

Thus, the distinction of being the first club to win at Birkenhead this season belongs to Guy's. Those who have followed recent matches of the Hospital have noticed the steady improvement shown since December, and perhaps this win will not come as a surprise. However, it cannot be denied that it is a very creditable victory and should go a long way towards inspiring the side to greater efforts.

The Park were without Paterson, the Scottish forward, but otherwise were at full strength. Eustace was still unable to resume at scrum half so Guy's persevered with the same side that did so well against the U.C.S. Old Boys, with the exception that J. B. Batchelor was included in the pack to the exclusion of K. P. Smith.

Birkenhead Park are particularly strong this season, and prior to the visit of the Hospital had only lost two matches by small margins.

Guy's owe their victory to their combination and perseverance, for at half time they were 8 points in arrears. After the interval the Hospital gave a very convincing display, and handling quickly and accurately soon had the home defence in a tangle. The pace set in the first half told upon the Park's forwards, and by superior stamina and quick following up the Hospital pack outplayed the opposing pack, who tired under the heavy onslaughts and pace set by our men.

The backs handled with remarkable precision and opened up the game at every opportunity. Windsor Lewis was in splendid form and had a considerable share in the movements which led up to the Guy's scores.

The defence, too, proved quite effective after change of ends and never allowed the Park attack to develop.

The opening half was very evenly contested and the defences of both sides prevailed. However, the home side were able to cross over with a good lead, through tries scored by Green and Roberts. The latter's try was obtained a minute before the interval, and was converted by Richardson.

Directly after the resumption Guy's came out in most refreshing form and attacked time after time. Their efforts were soon rewarded when W. Lewis, who only arrived from Pembroke College, Cambridge, this term, dropped a great goal from a difficult angle on the left wing.

Inspired by this success Guy's continued the offensive, and in quick succession F. H. B. Spence scored two good tries, both of which were converted by Hogbin.

The fine finishing of the Hospital men took the home players by complete surprise. It was all so quickly and cleverly accomplished that the early work of the Park was almost forgotten by their supporters, who gave Guy's plenty of encouragement by their applause.

Guy's Team—D. F. Ryan; T. G. Robinson, F. H. B. Spence, I. K. Thomas, W. Lewis; I. C. Wilson, Windsor H. Lewis; J. R. F. Popplewell, C. D. Malone, R. A. P. Hogbin, G. F. Lashmore, A. R. Clarke, T. Morgan, D. S. Clogg, J. S. Batchelor.

Hospital Information, etc.

Notices

GUY'S man, retiring from practice, wishes to dispose of waiting room and consulting room furniture, some books and instruments. Seen by appointment at 519, London Road, Thornton Heath.

THE DIRECTORY OF GUY'S MEN, 1929 (Medical and Dental), is now ready for distribution, and all subscribers to the *Gazette* and *Directory* will have received their copies through the post.

Subscribing members fo the Clubs' Unior are entitled to a copy of the *Directory*, which, if required, may be obtained on application at the Wills Library.

Non-subscribers may obtain a copy at the GAZETTE Office (Counting House), Guy's Hospital, S.E.1, price 2*s.* 6*d.*

Guy's Hospital Christian Union

MEETINGS will be held this Term on Mondays, 1.25 p.m. to 1.55 p.m., and on Fridays, 5 p.m. to 6 p.m.

The place on both days will be the Chaplain's Room. To reach this you go through the middle door of the side of the quadrangle on Thomas Guy's left hand, turn immediately left and go through the door at end of short corridor.

The Monday meeting will be devotional and that on Fridays for study.

Any members of the Hospital will be extremely welcome on either of these days.

Further particulars can be obtained from G. H. Taylor or J. Sharp (Medical School), C. J. McNeill or J. Mayston (Dental School), or F. H. Stevenson (Wards).

Change of Address

Norman Burgess, M.A., M.D., M.R.C.P. (in addition to Bristol address), 48, Harley Street, W.1. Tel.: Langham 2047.

C. Laceby Stevens, L.D.S., R.C.S., Alfrida, Great West Road, Lampton, near Hounslow.

G. G. Grainger, L.D.S., R.C.S., Holly Bank, Stoneygate, Leicester.

G. P. Lindsay, M.B., B.S., Lister House, 28, Godstone Road, Purley.

Papers by Guy's Men

Norman Burgess, M.A., M.D., M.R.C.P. The Chloride Content of the Whole Blood in Eczema, *Brit. Jour. Dermat. and Syph.*, Vol. xli, 1929, p. 6.

Pass List

UNIVERSITY OF LONDON

1ST EXAMINATION FOR MEDICAL DEGREES
December, 1928

J. A. Brocklebank	D. J. Clarke
H. T. Croudace	L. R. T. Edwards
R. C. Hill	A. E. Jones
L. G. Mackenzie	C. Mitchell
V. B. Reckitt	J. E. Rowlands
H. B. Smith	P. R. Wheatley

SOCIETY OF APOTHECARIES OF LONDON
January, 1929

Anatomy
L. G. Yendoll

Physiology

T. E. Mitchell	L. G. Yendoll

Guy's Hospital Gazette
(ESTABLISHED 1872)

A Journal of Hospital News, Medicine, Surgery and Dentistry

Published on alternate Saturdays. Price 9d.

Editorial and Publishing Office:—THE COUNTING HOUSE, GUY'S HOSPITAL, LONDON, S.E.1.

Annual Subscription, including *Directory of Guy's Men* (*Medical and Dental*), 12s. 6d. Post Free, payable in advance.

Death.

HUCKLE—At Hastings, on January 14th, 1929, of Dr. Arthur Henry Headley Huckle, in his 58th year.

EDS. {O. P. / E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLIII — *9th February 1929* — *Number 1058*

PASSIM

THE Continent christens these things in a much more appropriate manner. 'Flu, an insignificant word, might perhaps serve to describe that coryzal state which, according to the lozenge advertisement, is invariably the lot of your neighbour in the Tube, but the virulent malady which during the past 10 days has attacked the Hospital with an hitherto unparalleled vigour, decimating the Nursing Staff, working havoc alike in Wards, Home and College, well deserves the more formidable term "la grippe."

With about 130 people working in the Hospital off the active list, the sick room full and Cornelius converted to the needs of the Nurses, the position is indeed serious, for not only is the general work of the Hospital completely held up, but the incidence of post-operative complications has increased so considerably that the various firms have decided to cease their surgical activities until the crest of the wave has passed, undoubtedly a wise move in the circumstances.

The different factors of climate, susceptibility to infection, biological variation in the causative agent, and so on, which combine to provoke a wave of illness such as we are facing at present, seem as yet to be hopelessly entangled. There emerges the fact that most of the fatal cases in our own outbreak have harboured a particularly malignant streptococcus, probably as a secondary invader. Prophylaxis in the shape of a daily orange in the Home or mass irradiation of Tabard House has perhaps helped in some measure to stem the advance of the usual preliminary cold, but the real agents at work are no doubt of an unusual magnitude and act in an entirely unknown manner so that chance of future freedom must be in the study of the trough and trailing wave that form a new field for the epidemiologist. Mathematical speculation has enabled Einstein to express the entire physical universe in a six page pamphlet; let us hope that a similar precision will be attained in an investigation of what was at first regarded as a disease of modern times, but is now seen to have been the scourge of centuries.

A MINOR effect of this influenza epidemic is the havoc caused in the cast of the Residents' Play. Mr. J. K. Moore, the leading "lady," was struck down a few days before the dress rehearsal and the hourly bulletins were watched with very considerable anxiety, until at the last moment it was decided that a substitute must be discovered. Fortunately, Mr. E. T. Conybeare, one of the two producers, was found to possess hidden stores of dramatic and vocal talent, besides unbounded energy, and he filled the gap most successfully. In addition to this blow most of the cast have been "influenzal," and have been saying their lines at rehearsals with husky voices and running eyes. However, in spite of these set-backs, the play started on the advertised date—rather unexpectedly—and, at the time of going to press, is playing to full houses with considerable success. Our next number will contain a full account and criticism of the play by our dramatic expert and will be illustrated—we hope—by photographs of the cast in different attitudes of grief and joy, revenge and remorse, love and hate and any other expressions they can remember.

WE should like to convey our very hearty congratulations to Miss Dora Smith, the Assistant Matron on her appointment as Matron to the Middlesex Hospital, where, we understand, a new

wing to the Nurses' Home has been recently erected. While we are quite sure that all who know her will be extremely sorry to lose her, yet we wish every success to go with Miss Smith in her new position.

VERY strong rumours are about concerning the identity of the new Assistant Physician. Each rumour claims to be more authentic and to come from nearer the proverbial horse's mouth than the last, but the official announcement will not be made until we have gone into print. Meanwhile, we will hold our Editorial peace.

WE have been asked to bring to the notice of members of the Clubs' Union that a new set of periodical cases has been supplied in the Reading Room and to appeal for better treatment for these covers than they have been given in the past. These cases are supplied to the Students' Club free of charge on the understanding that they should remain there for at least two years, but in the past they have been so badly treated that they are in ribbons in a very short time. We know well the temptation to cast carelessly on one side the light literature which we have just been studying, but we feel that a little more care in the casting would bring longer life to the periodical cases and a tidier appearance to what is already a rather gloomy, shabby and disreputable room.

THE demolition of the subterranean communication between College and Park continues apace. For many weeks now the north-east corner of the Park has been a very fair imitation of a battlefield after heavy bombardment. Bolder spirits passed under this barrage to and from the College; then for a time they walked unprotected under the open sky. Now, a new roof has been erected over their heads and a new passage, quite strikingly like the old one, constructed around them. *But the new passage is at least 2 feet further north than the old one.*

A Survey of Some Conditions Conducive to Mental Disturbance, with Suggestions as to their Treatment

The Presidential Address* delivered on November 13th, 1928, to the Section of Psychiatry of the Royal Society of Medicine by Sir Maurice Craig, C.B.E., M.D.

THERE is no branch of medicine that covers so wide a range as that known as Psychological Medicine; it can be approached by many and widely diverse avenues, and the combined efforts of men working along these varied roads have greatly advanced our knowledge during the past quarter of a century. I have no new hypothesis to offer; my contribution must be limited to clinical observations and such inferences as may appear to be justified from them. Fifteen years' residence in a mental hospital inspired within me a desire to approach psychological medicine from the preventive side, and the fascination of this has increased with time. I agree whole-heartedly with those who believe that much mental disorder, as we see it to-day, is preventible.

The influence of stresses upon the mind is as important with the normal man as with the abnormal, indeed, the mental reaction in any individual may be the determining factor in recovery, whether in general disease, surgical interference or in any other condition. The study of the mind is a study of interaction and relationship. Scientists profess to investigate the sequence of phenomena and recoil from an expression of opinion as to why they succeed each other. Years ago the aim of experimental medicine was the discovery of causes; now it would be more accurate to speak of sequences. Certain sequences have become impressed upon my mind both by reason of their frequency and because in a given instance one can foresee the next step in the order of symptoms. If we accept as a basic principle that inherited tendencies largely determine the danger areas in any given man we should endeavour to find what stresses, external or internal, may so reinforce this tendency as to make it operative.

*Republished by kind permission of the Editor of the Proceedings of the Royal Society of Medicine.

For many years I have regarded variations in sensitivity, and I use the word in its widest sense, whether congenital or acquired, as one of the most important of potential factors in the production of mental disorder, and with this hyper-sensitivity there is frequently associated a weak inhibition or lessened control. I am aware that here I shall be confronted with critics who differentiate fundamentally between psychoneuroses and psychoses. I must honestly confess that I am afraid of labels, for it seems to me that there is a danger that by using them we may lose our perspective, which, to a certain extent, must be restricted by the artificial confines we have set up.

The threshold of minimum sensitivity differs in individuals; for example, some children from their earliest years react unduly to weak stimuli, whereas in others extreme sensitivity arises during the passage of years. Now, if this undue sensitivity occurs in a child or man with a neuropathic inheritance, it is common to note other changes which, having regard to their frequency, may be looked upon as sequences to the primary sensitivity. These changes may be on either the physical or the mental side; if on the latter, in that the next disturbance will be one of the emotions, bodily changes must evitably result. Thus, disturbed emotion must be regarded as a common sequence to hyper-sensitivity, and if this is true it is clear how important it is to treat the hyper-sensitivity before the emotions have become involved. To me this consideration is one of the most important, for it is one of the earliest to be dealt with in the problem of prevention of mental disorder. For over 20 years I have acted on this assumption, and, being of opinion that by controlling the initial hyper-sensitivity further trouble is prevented, I have made it a practice to keep certain types of children continuously on small doses of bromide. To children under four years of age I give 2½ gr. of potassium bromide, and to children over four twice that amount, once a day. I have found that by following this course children who in some cases owing to their over-reaction to stimuli may be almost uneducable become quiet and teachable, and others less hyper-sensitive are helped in varying ways. It is of interest that children who had been taking this small dose of bromide regularly for long periods and who had ceased to take it, slowly regressed during the following 12 or 18 months, and in some instances the excitability which again became noticeable continued to increase until epileptic fits occurred. This appears to indicate that a small dose of bromide given daily and continuously to certain types of individuals acts as a prophylactic to the development of epilepsy. Further, acting upon the same line, that of controlling the initial condition of hyper-sensitivity, I have for many years advised certain nervous types of men and women on going to reside in the tropics to take 5 gr. of potassium bromide once every day during the time they are there; and many have told me on their return that they had kept in better health and had experienced less nervous irritability with its concomitant symptoms than in former times when they had taken no bromide. Again, for many years I have prescribed for certain types of active men and women 5 gr. of bromide once daily for varying periods up to 5 and 20 years with equally beneficial results.

Now, that which I have long observed clinically seems about to be confirmed and explained by that distinguished physiologist, Pavlov. In his great work on the conditioning of instincts in dogs, he refers to the different types of nervous system that he encountered in the dogs which he used for his experimental work. He found that in excitable dogs the inhibitory function of the cortical elements became extremely weakened, but if bromides were given certain important effects resulted. He adds: "It must be noted that as a result of the administration of bromides there was no diminution in the magnitude of the positive reflexes; on the contrary, they were extremely constant. According to these and all previous experiments, bromides should not be regarded as sedatives diminishing the excitability of the central nervous system; they simply regulate the activity of the nervous system by strengthening the intensity of internal inhibition." My clinical experience coincides with Pavlov's observation, for when a small dose of bromide is taken daily, even for many years, there is no dulling of the mental powers; indeed, the reverse is noticeable, that the mental capacity is usually increased, no doubt due to the prevention of wastage. I have found that the small dose of bromide, long continued, is of infinitely greater value than the larger doses administered for a shorter period. Indeed, bromide in the larger doses can be extremely toxic and its beneficial effects are not infrequently lessened, or even may be destroyed, by prescribing it in this way. If, as Pavlov suggests, bromide strengthens a weak inhibition, it is clear that the smaller the dose that will produce the desired effect the better. Is it possible, then, that much mental disorder, as we know it to-day, is due to the weakening of the inhibition and not to any positive condition? This view of lowered resistance makes inherited tendencies more easy to understand. It is true that there are certain—may I call them malignant?—types of mind disturbance which run a

definite course and the syndrome of whose symptoms renders them capable of being classed under recognised names, but opposed to these stands a much larger group, embracing the exhaustion and intoxication types, which are clearly very different from the "malign" group, and which are much more accessible to treatment.

If once the inhibitory function of the cortical elements has become markedly weakened, the next steps on the downward path are almost constant on the mental side. The emotions become involved and the disturbance of these in turn gives rise to pre-occupation, false reasoning and, in course of time, to failure of adaptation to environment. All this cannot take place without equally important change arising on the physical side. The functions of the various systems of the body are so closely inter-related that one of these cannot become involved without disturbance in another. Indeed, in the course of time the gastro-intestinal, the cardio-vascular, the genito-urinary may all become affected and the defensive mechanism of the vegetative nervous system may give rise to a disturbed balance in the functioning of the endocrine glands, and with all this a fall in the metabolic rate and a change in the body weight takes place. If the physician sees the patient for the first time after these have progressed for a number of weeks or months, we may find it difficult to decide what was the initial cause of the mischief. Some turn at once to the variation in the functioning of the endocrine glands. Physiologists have given warnings against this conclusion being accepted too rapidly, and my experience certainly favours their sceptical attitude. Although it is no doubt true in certain cases that the functioning of an endocrine gland may be so disordered as to call for treatment, year by year I become more convinced that the changes in the vegetative nervous system are usually secondary, though one must admit that when once established they may have an important bearing on the illness. To discover the initial cause, one should follow the only safe rule in diagnosis and make a careful inquiry into the medical history of the patient in addition to the examination of his condition, and this necessitates accurate and careful case-taking. If we do this, and if we have an opportunity of seeing patients in the earliest stages of their illness and control tests are made, it is often found that the endocrine gland changes show themselves for the firt time in later tests. Further, it must be noted that if steps are taken to correct over- or under-activity in these glands, and it is not followed by improvement in the mental disorder, whatever this may be, this suggests that both the endocrine change and the mental disturbance may be due to a common cause. It would be conceded by most physicians that after an illness has progressed for a certain time diversity of opinion as to its nature becomes increasingly possible. The psychologically-minded man turns towards mind analysis or investigation; he traces fears to an origin which satisfies him; he may criticise the physician who looks to physical causes and point to the number of relapses that he has seen follow this man's methods. But relapses occur in the practice of every physician. Experience has convinced me that the would-be pure psychologist cannot permit himself to ignore the physical aspect in a case any more than the man who leans towards the somatic aspect of disease should neglect the importance of the psychical. A patient throughout his life may have suffered from many fears and, whereas each fear may be based on something, the important matter is not the phobia, but the condition which permitted it to become effective, for it is this alone which explains the multiplicity of phobias from which it is possible for an individual to suffer. Much may be done to localise an illness by pointing out to a patient the dangers of false reasoning regarding his symptoms. Indeed, much benefit may accrue from foretelling to the patient the course that his reasoning will take him; or if he has already a distorted outlook, much good may result, both in the treatment of the present difficulties and in the prevention of their recurrence, from going back as far as possible and pointing out how the error of reasoning arose and how it brought about a failure of adaptation to environment.

Sleeplessness is another symptom the importance of which has become more and more impressed upon me; indeed, for over 15 years I have given it priority over all other symptoms. There are some who are not satisfied that it is as important as I consider it, and others who disregard it if one can judge by the indifference with which they treat it. It is at times argued that sleeplessness in some individuals has no apparent bad effect, but to me the evidence adduced in support of this view is not convincing and does not really touch the clinical aspect of the subject, but we treat different individuals and it is for the physician to discern who are most likely to be seriously affected by insomnia. To quote experiments, such as those of Kleitman, to show that a number of persons have voluntarily deprived themselves of any consecutive hours of sleep with no ill effects, is no answer to the question before us, as these persons were all healthy and capable of adaptation to stress, and even here there is evidence of exhaustion, as McDougall and Smith

found that, although voluntary deprivation of sleep for the time increased mental efficiency, when these subjects returned to sleeping normally, they had a period of diminished efficiency which lasted for at least 14 days.

Again, it is argued that it is really the physical effect of not sleeping which is important and that if people did not worry about it no ill effect would result. Up to a point this no doubt is true, for the psychical effect of not sleeping does play a part with some persons, but it is by reinforcing something else. Animals deteriorate and die when deprived of sleep, and there is no rationalising here. We are told that it is dangerous to argue from animals to man, but is it so in this matter? Deprivation of sleep causes puppies to die quickly, and the younger the animal the more rapid its death, and it is equally true that young children who do not sleep deteriorate more rapidly than adults. With man, provided he is not feeble-minded, whatever the condition the psychical aspect must always have its place, but do not let us regard this as necessarily or even commonly the paramount factor. False reasoning should always be corrected or prevented, and, whatever methods are employed to remedy a condition, the physician or surgeon should never fail to deal with the psychical aspect.

To turn to the other side, the evidence which goes to emphasise the importance of sleep. Physiologists tell us that sleep is the only process which restores fatigued cells whether in the brain or in any other organ. Experiments show that animals kept continuously awake rapidly become exhausted and die. As there must be every gradation from health to dissolution, the nerve cells must suffer, even if the clinical evidence of this is not manifest. Professor Weygandt in his address at the Bristol Medical Association at Cardiff this summer, stated that "in speaking of exhaustion we must distinguish between bodily exhaustion (fatigue) and lack of sleep and lack of nourishment. Bodily strain has a more harmful effect on the heart than on the nervous system. Lack of sleep can, of course, cause disorder in the normal mind. . . . Mental qualities declined very quickly during a sleepless night." Also "the brain of animals killed by hunger experiments is much less affected than the brain of those dying from lack of sleep." As I have already stated, the absence of sleep acts with greater force in the young than in the old, and this again varies with individuals.

Before turning to the therapeutic aspect of the subject I must refer again to Pavlov's observations. He states that he found sleep became abolished under certain conditions, and when experimenting with certain types of dogs, that, broadly speaking, all the dogs he employed could be divided into two groups: (1) those with an excessive or moderate tendency to excitation, and (2) those with an excessive or moderate tendency to inhibition. Indeed, his experiments provided him with very clear and definite illustrations of the essential differences between the types of nervous system in certain dogs. In one the inhibitory function of the cortical elements became extremely weakened, whereas in another the excitation of the corresponding cells became affected: two quite different types of neurosis were produced, but in both cases they were persistent, prolonged, and, even after a break in the experiment, showed no tendency to improve. On observing this he decided to try bromides in the case of the dog whose inhibitions were weak. With this type of dog recovery was rapid, whereas with the other variety there was no improvement from the administration of bromides nor from any other therapeutic measures which were tried. But this latter type of animal, when left alone for a length of time, was found to recover spontaneously and completely. These experiments are extremely suggestive, and they may, when further investigations have been made, help to explain that there are different types of nervous instability. We know how little use hypnotic drugs are in the treatment of certain maniacal states, and how at times they seem almost to increase the excitement, and we know also that patients suffering from these states, if left alone, spontaneously recover. But at the moment these latter are not the type with which I am most concerned since we can do so much more for the former, and it is in regard to these that Pavlov's work confirms clinical experience as I have found it, that sleeplessness in these types is quickly corrected by suitable therapeutic methods, and more especially if the treatment is begun early. Opinions still vary on the advisability of prescribing sedatives; some recommend their administration only as a final resort, and even then advise that they should be withdrawn at the earliest moment. This is largely based on the fear that the patient will become a drug addict. I presume that we should all agree that morphia, heroin or opium should never be given for ordinary sleeplessness; indeed, in many instances they not only fail to induce sleep, but bring about a condition of excitement. These drugs produce a pleasurable sensation, and therefore tend to addiction, whereas with the ordinary hypnotics such pleasurable sensations do not occur. When we consider the number of persons for whom sedatives are prescribed, we must conclude that addiction is an exceedingly rare sequel. In my experience, there are two types of addict:

the degenerate, who takes any drug he can obtain, *including alcohol, the opium group, cocaine or* hypnotics—this type is not common; and those who have become sleepless and from whom hypnotics have been withheld until the patient reached a state of terror that he was either going insane or that some terrible fate awaited him, and when finally the insomnia was relieved by drugs he feared to give them up lest he should again undergo similar terrifying experiences. Therefore, the physician who withholds hypnotics may bring about the addiction which he dreads. Further, I have known patients who from being practically teetotal became addicted to alcohol from the time they became sleepless and were unable to obtain relief from the treatment prescribed by their medical adviser. It is not always clear what is meant by "addict." It certainly should not apply to a person who under medical advice takes a sedative every night and who thus preserves his sleep, and in consequence enjoys good health and full mental activity, and who could at any time stop taking that sedative. Yet to judge from statements by some medical men these patients would be regarded by them as addicts. Such a use of language is a travesty and is certainly not applied to other potions, such as alcohol which, for some reason, seems to enjoy a great freedom from reproach. The term "sleeping draught" is another which is used loosely and in most instances incorrectly. I have frequently drawn attention to this mistaken way of regarding sedatives or hypnotics. Most of them do not produce sleep in the strict sense of the word. Amylene hydrate and paraldehyde are about the only sleeping draughts if one is going to use this term, for whatever time of day or night these drugs are given the majority of persons will sleep. But this is far from being the case, for example, with the barbitone group when given in therapeutic doses; indeed, if they are administered by day the patient has no desire to sleep. Knowing this, it is unscientific for medical men to use an inaccurate term. To do so has a further disadvantage as it implies that sleep which follows the administration of any sedative is artificial sleep, which it certainly is not, for the reason above stated. The physiological experiments made by Pavlov have already become very suggestive as to what happens when sedatives or hypnotics are taken, and further investigations may prove that the action of many of them is not sedative in the sense of diminishing the excitability of the central nervous system, but that they act by strengthening a weakened inhibition and that sleep is only secondary. This would accord with my clinical experience and may explain why hypnotics are frequently of little value in certain states of excitement.

In support of the view that the barbitone group may act by protecting a weakened inhibition, it is of interest to note that patients who are given a dose of medinal in the morning will not infrequently tell you that they have had a quiet day and slept well at night, and others, who do not always sleep at night after a dose of medinal at bedtime, will report that, although they did not sleep, they rested quietly and when lying awake did not become anxious or worried. This brings me to another point which would once more be in accord with the view that the prolonged use of the barbitone group is invaluable in preserving the mental stability and the mental values of certain types of persons. Patients who show evidence of exhaustion, with defective sleep, due either to advancing years or to prolonged over-stimulation of the nervous system, or to the lowering of their nervous resistance by illness or surgical operation, may be benefited physically and have their mental stability strengthened, so that their activity of mind may remain on a high level for many years, by taking a small dose of dial or medinal every night. I have had the metabolic rate tested in patients who have been taking medinal for many years, and it is always a high normal, therefore there is no evidence that the taking of the barbitone group over long periods is damaging to the public health. This is borne out by Dr. Edwin Goodall, a very careful observer, who states in his annual report of Cardiff Mental Hospital, two years ago, when writing about the administration of sodium luminal, that "it had no deleterious effect on the physical and mental condition of patients as have bromides and allied drugs." Amongst the many patients whom I have known to have taken medinal or dial for many years continuously, and who, by so doing, have been able to live a full and energetic life, are representatives of every form of mental activity. My attitude towards sedatives has been a progressive one; in my early professional days I used them as little as possible and withdrew them at the earliest possible moment; later, when my work became more especially in the field of treatment, I found that sedatives were as valuable, if not more so, in the prevention of sleeplessness and mental disorder as in the treatment of them, but even then I limited the time that a patient took hypnotics and seldom advised a man to return to work whilst still requiring them, but still the results were unsatisfactory; to stop them when a patient has been sleeping well for a short time almost always is followed by a return of the sleeplessness; in other words, one permits the

condition that gave rise to the insomnia to become re-established ; therefore, it was with a view to preventing this that I resorted to what has proved the most efficient method, that of giving sedatives over long periods ; neither have I found that there is any difficulty in withdrawing them when so desired ; further, I give them to protect the nervous system when unstable persons are exposed to special stress. Thus, for many years I have given 5 grains of medinal every night at bedtime to certain unstable types of women during the last three or four months of pregnancy, and for the nine months after the birth, and I have never known a woman have a mental breakdown when following this treatment. Here, again, the medinal strengthens a weakened inhibition, and in this way protects the nervous system. As to the effectiveness of the protection I have not the slightest doubt, owing to the number of years and the frequency with which I have used it.

There is another very different class of case in which I have been interested for many years, as it does not seem clear why certain patients have recurrent attacks, or why these attacks occur in cycles. The disorder to which I refer is that known as maniacal depressive mental disturbance. Seven years ago I decided to try keeping this type of patient on 5 grains of medinal daily throughout the period that they were well, and I have four patients who have been treated in this way, two of whom have not broken down in the slightest degree, although for several years before they had broken down regularly and very badly, while the other two, though they have had phases of mild excitement and depression, have had no attack comparable to what they had before taking the medinal. Four cases are too few to draw any inference from, but I give them for what they are worth, and as a suggestion to anyone who would care to investigate this line of preventive treatment further.

It is now recognised that sleeplessness in children is a far more serious symptom than many medical men appreciate. The deleterious effects may be either physical or mental, but whichever side manifests itself first, if the sleeplessness persists for any length of time, there will be both mental and physical deterioration, For younger children I have found 5 grains of potassium bromide or, if necessary, 5 grains of chloral hydrate with 5 grains of potassium bromide every night for a prolonged period, maybe for several years, effect excellent results, while for children over 12, if chloral is not effective, I have found that 1 tablet of dial or 5 grains of medinal is very helpful. Children so treated improve both mentally and physically, and, if treatment is continued for 18 months or 2 years, they reach a very high standard of health, but when the medinal or dial is stopped, I continue with one small dose of potassium bromide daily. Some may feel that this prolonged treatment is unnecessary, but my experience is that a mental breakdown, even a short one, in early life is a serious matter, as many of these children remain unstable and tend to have further attacks when between 16 and 20 years of age, and again during later years. I found that a shortened treatment did not prevent these relapses, whereas a prolonged treatment did, and that a longer treatment brought about a very much higher level of physical health and, in consequence, a greater power of resistance to stresses. Here again Pavlov's investigations would seem to explain why some young persons tend to break down, and why the treatment I have found helpful produces good results.

Now, let me turn to another group of cases, patients who have undergone a surgical operation. Some surgeons find there is very little mental disturbance associated with operative treatment, whereas others will tell you that minor mental disturbances are not infrequent. My experience would go strongly to confirm the observation of the latter. The main reasons for this divergence of opinion are that the emotional unrest and the sleeplessness just before or immediately after an operation may be slight and easily overlooked, and the more marked symptoms usually do not arise until the patient is out of the hands of the surgeon. But to overlook any early symptom is an error of no small importance, as the deterioration once started tends to increase. Every year one sees a number of patients who state that they have never slept properly since an operation some months previously. Whereas, in my experience, if they had been treated at once and their sleeplessness relieved, the insomnia would have been of very short duration. It seems almost a commonplace to suggest that a person with a keen imagination must be disturbed emotionally from the time that the necessity for operative interference has been made known to him, and his sleep tends to be defective in quality or quantity. But this is not all ; the operation itself, including the anæsthetic, may be very upsetting to some persons and, even apart from actual pain, some persons cannot sleep the nights following the operation. Surgeons tend to think only of morphia for the relief of sleeplessness and, when this quite properly has to be stopped, nothing further is usually done except perhaps to give bromide. On the other hand, there are surgeons and anæsthetists who appreciate the importance of emotional disturbance in patients and the wisdom of obtaining

for them proper sleep at this time. Mr. E. S. Rowbotham tells me that he gives paraldehyde per rectum after an operation and before the patient is removed from the operating table; the dosage that he administers is about ½ a drachm of paraldehyde per stone weight of the patient. In the case of very apprehensive persons he gives per rectum 1 drachm of paraldehyde per stone weight about one hour before the operation in addition to small doses of morphia, which ensures the patients sleeping so soundly that they are often unaware of being put under the anæsthetic. The value of this is very great, and I have known patients who have feared an operation tell me that they experienced no worries or inconvenience of any kind and that their sleep had remained good throughout. As to the value of paraldehyde following an operation I am convinced. One of the most dramatic occasions on which I have seen it used was when I was called late at night to see a man aged 82 who had had his prostate removed three days previously, since when he had had no sleep. He was unconsious and apparently moribund. An ounce of paraldehyde in mucilage was administered per rectum. Next morning I heard that he had slept all night, and I found him sitting up reading a newspaper. Since then Mr. Frank Kidd tells me "that for some years he has made it a practice to administer paraldehyde per rectum to most of his patients as soon as they are taken back to bed after leaving the operating table. He finds that the paraldehyde acts better in women than in men. As soon as the patient rouses and complains of pain an injection of morphia is given. The patient then usually passes into a deep sleep, which lasts for many hours. When the patient wakes all severe pain attendant on the operation has usually disappeared and the patient is thus saved the mental trauma due to suffering severe pain as the result of an operation." Mr. Gay French tells me that he also gives paraldehyde after an operation before the patient leaves the operating table, and that he does this even with children who have had their tonsils or adenoids removed, while with adults he uses paraldehyde both before and after operation. I have no doubt that there are other surgeons and anæsthetists following the same method. Apart from the value of giving paraldehyde immediately before and after an operation, I have long made a practice of giving medinal, dial or allonal according to which best suits the individual patient. These can be given for some days before and for several weeks after an operation. The convalescence will be more rapid and complete when the treatment is carried out if the patient belongs in the slightest degree to the nervous or unstable type. Some months ago a surgeon told me that he himself had had an operation and could not sleep after it, so he prescribed sodium barbitone for himself and after taking it his sleep quickly became re-established and he made a rapid recovery, and he tells me that he has since made a practice of giving sedatives after operation and has noticed the beneficial effect on his patients.

To sum up this matter, I am of opinion that most sedatives are not "sleeping draughts," but that they act by bringing about a condition conducive to sleep and, what is even more important, they protect the nerve cells from changes which will in time take place if sleeplessness is severe or prolonged. Crile's work supports this, for he states that the use of certain drugs prevents the changes in the nerve cells, even when the sleep which would have resulted from giving these agents has been prevented.

Further, I believe that if medical men prescribed effective sedatives for sleeplessness, there would be less taking of drugs by patients on their own initiative. My experience is that patients do not tend to go on taking drugs after the sleeplessness is fully corrected. When to take hypnotics and when to stop them is a medical matter, but it is incumbent upon medical men to see that everything is done to relieve insomnia and to do this quickly, for, if begun early, small doses are effective and the disability rapidly passes away, while to wait usually means greater deterioration of mind and body, and in consequence a more difficult problem to contend with. The writer of the leading article on sleep and its disorders in the *British Medical Journal* for August 11th, 1928, aptly and correctly sums up the clinical position when he says: "It need hardly be said, indeed, that we do not treat insomnia but an individual who cannot sleep," that is to say, one must keep in mind the inherited tendencies and the life history of the man, together with the disability; and the inheritance and life history may be of infinite importance not by causing one to discount symptoms because the patient has always been nervous and unstable, but rather by forewarning one to bear in mind that this instability will tend to accentuate the condition and may determine the access of other symptoms which would not arise were the man nervously stable.

To turn to another matter which has been attracting attention throughout my professional life—the rôle of toxæmia or chronic sepsis in nervous and mental disturbances. For many years I have been convinced of their importance and this conviction increases with years. It is no answer to say that many persons are infected with this or that poisoning and yet evince no evidence

of mental change. That delightful book by Sir Humphry Rolleston, *Idiosyncrasies*, gives much food for reflection. I am certain that almost anything can act in a toxic manner provided the nervous system is sensitive, or, in other words, has an idiosyncrasy towards it. I reported a case of T.N.T. poisoning which produced acute insanity in a man after 12 days, and I have known men to become acutely delirious and confused within 24 hours of partaking of mushrooms and to have remained so for several weeks. Most of us have seen similar effects from pus in the antrum or in some other locality. A few months ago I saw a business man who became muddled on returning home one evening, and this increased during the following few days. Tests indicated streptococcal and staphylococcal infection, and in the subsequent search for a focal area of infection on transillumination the left antrum gave a shadow. The insertion of a needle produced some foul pus. Three days after the antrum had been washed out the five male nurses who had been necessary on account of the delirious condition of the patient were replaced by two female nurses, and the man made an uninterrupted recovery within six weeks. Similar results have followed the evacuation of pus in the thorax or abdomen. The diagnosis is comparatively easy when the syndrome of mental symptoms is characteristic of an acute toxæmia, but the difficulty arises when the symptoms and the grouping of them are less typical of this condition. During recent years there has been overwhelming evidence as to the toxic effects upon the nervous system of the organism which gives rise to the disease known as encephalitis lethargica. Children and adults who have suffered from this disease may develop a Parkinsonian syndrome or they may exhibit definite mental changes which are both crippling and permanent. The importance of oral sepsis is now proved, or at least would be generally accepted, as an important factor in the causation of mental disorder in later life. Its effect upon some people is made manifest by the swelling of joints or neuritic pains and in other numerous ways. But in another group of patients the mental activities are affected and the mind becomes confused. That this can be brought about by the presence of a poison such as oral sepsis is proved, for as the infected teeth are extracted the mind may clear and the abnormal mental symptoms rapidly disappear. On the other hand, against this it may be argued that after the removal of the teeth many mentally disordered persons do not recover, and in some cases may become worse, but this may happen either because the septic teeth have been removed in too great numbers at a time, or, where the mouth is exceptionally toxic, the patient has not been in the first place desensitised by a vaccine. Further, that some patients do not recover after extraction of teeth should not be accepted as conclusive evidence that oral sepsis is not the cause of mind disorder in a given case, as the condition may have persisted for a long time and have led to permanent damage, or there may be an infection elsewhere. Again, it must always be borne in mind that not every person reacts to a poison in this way, but only those who have a special idiosyncrasy to that specific poison. I am satisfied that the early recognition and diagnosis of a toxic condition is important, and the longer the condition lasts the more difficult and the less effective becomes any remedial treatment. It is for this reason that medical men should devote more time and study to mind reactions, especially the minor mental disturbances, for in certain predisposed persons these may be the earliest indication of physical disease due to some infection, and in some instances the failure to appreciate the significance of these changes may permit the disease to reach a stage from which the patient may never recover. I have long been impressed by the frequency with which insomnia is associated with toxæmia, and in many cases the former occurs first and seems to permit of the latter becoming active ; in other words, a toxic exhaustion psychosis may develop as the result of a vicious circle of biological events set up by sleeplessness. Further, I am satisfied in my mind that where there is an obvious toxæmia it is possible in many cases to prevent serious mental symptoms from developing by treating the insomnia at once, and in so doing one follows the ordinary canon of medical practice which requires the physician or surgeon to localise the disease as rapidly as possible.

When mental and physical disorder has persisted for some time it becomes increasingly difficult to determine the order in the sequence of events as to which was the first to develop. The problem which confronts the physician is made manifest when one reads so instructive an article as that written by Dr. R. D. Gillespie on " The Clinical Differentiation of Psychogenic and Physiogenic Disorder " in a recent issue of *Brain*. I have here emphasised the physical aspects and many may feel that I have overstated my case. With the advent of the " New Psychology " there was for some years a real danger of over-estimating the psychical side, but this seems to be passing away and a more even balance between the various schools of thought is becoming noticeable. I think it will be generally conceded that each person has his own way of reacting to stress,

whether external or internal. This is true both of mind and of body. Following stress or with lowered resistance as a result of fatigue or illness, one finds on each occasion when such stress occurs that some persons complain of pain in the joints or of digestive or intestinal disturbance, more especially if from early life or owing to surgical operation, accident or disease, such areas have been rendered abnormally sensitive; every time the order of regression is the same, and so it may be with other persons that the regression shows itself in variations of the emotions or mental activities. To appreciate this is important from another standpoint than diagnosis, for as the symptoms may be subjectively disturbing to the patient, their medical significance must be explained to him, lest he should attach undue importance to them. Much mental disorder is due to false reasoning or rationalising, and at times this results from a medical man's not explaining to the patient the true medical condition and thus permitting him to argue it out for himself, and on other occasions it results from a medical man's not appreciating the morbid sensibility of his patient, who in consequence may have wrongly construed a remark made to him. At times it is a very great relief to a patient to know that his mental disturbance is secondary to a toxæmia which it is possible to remove. Some would argue otherwise and say that the person's attitude of mind and mode of meeting the stress ensue from a psychic trauma or a wrong way of bringing up in early life. This no doubt is true of some cases, but if, as I suggest, the condition is due to a weakening inhibition, it is unnecessary and, indeed, may be harmful, to spend months in an attempt to retrace the workings of the subconscious in the hope of finally reaching the original cause. I do not wish to minimise or disregard the psychological standpoint, for this has its place, but experience has brought a genuine doubt into my mind whether there is not a real tendency at times to make too much of the psychological aspect, or at the least to use unnecessarily abstruse language in describing or accounting for straightforward and commonplace events. I am certain that psychological medicine would gain and not suffer from making the language we use more simple. We are anxious to make our knowledge understandable to the medical profession at large and to laymen and we shall not do this by the constant coining of new words which, with the advance of knowledge have to be given new meanings.

In an address such as this one must select and can deal with only one aspect of a subject, and in that clinical experience has year by year been driving me back into general medicine, I have dealt with the subject from the medical side, because it is the way in which experience has led me to think that we can obtain for the patient the greatest benefit. Those who are seeking to prevent disorder of mind, whether major or minor, must seek out, and wherever possible, correct conditions which from clinical experience would appear to be fundamental in bringing about these changes. The theory of a weakened inhibition explains so much; it explains the influence of inheritance in many ways; it explains why certain brilliant children or adults break down, and why at first there is no interference with their normal mental activity, which only becomes involved as sleep and other functions of the body become affected; it explains why a toxæmia may affect the nervous system of certain individuals, or why a breakdown may occur after surgical operation; it suggests why some persons break down from over-stimulation or with advancing years; it indicates to what end our treatment should be directed, and why this should at times be continuous, and how under these conditions persons may remain for many years in good health and full mental activity; it supplies a reasonable explanation why some persons relapse when certain treatment is discontinued. On the other hand, it does not remove from the physician the obligation to explain to the patient the manner in which the mind may become involved by false reasoning. The theory of a gradually weakening inhibition is the one which appears to me to fit in best with my professional experience both in clinical standpoint and therapeutic treatment; indeed, I verily believe that research from this standpoint would be the means of our acquiring much knowledge of value in the prevention and treatment of what, for want of a better term, we speak of as functional nervous disorder.

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As They Were

3. A. R. T. (as seen by W. L. Webb twenty years ago).

Injection Anæsthesia in Dental Practice

A Paper read before the Dental Society by Mr. A. G. Taylor

MR. PRESIDENT AND GENTLEMEN,—My paper is purposely called injection anæsthesia to avoid discussing the various drugs which produce anæsthesia by surface application: such drugs as ethyl chloride, phenol and sodium ethylate.

The first mention of hypodermic injections for the relief of pain is of a certain Rynd, of Meath, Ireland, who performed his injections with a hollow stiletto, down which the drugs flowed by gravity (1845).

From this humble start injection anæsthesia has advanced to a position from which it bids fair largely to supplant general anæsthesia.

By injection anæsthesia I mean the placing of a drug about a nerve or area, by means of a suitable syringe, so that insensibility of the nerve or area is produced.

The drugs usually employed are solutions of cocaine and novocain, to which adrenalin is often added.

Cocaine hydrochloride is the hydrochloride of an alkaloid obtained from coca leaves. Five minims of a 2 per cent. solution of cocaine is sufficient to produce anæsthesia for dental purposes. One-sixth grain cylinders of cocaine are largely used to produce surface anæsthesia by application to the mucous membrane, also by direct absorption through a lesion in the tissues, as into an exposed pulp. Anæsthesia is rapid and lasts about half-an-hour.

Cocaine has two disadvantages. It has a toxic effect on many people, especially when used in concentrated solution. This may be due to its action as a general nerve poison. As moderate doses impart a feeling of general well-being, its employment as a local anæsthetic may be the start of the drug habit in some weak-minded patients.

Owing to these disadvantages and the inclusion of cocaine in the list of dangerous drugs, it has very largely been superceded by the non-toxic synthetic preparation known to us as novocain.

Novocain, being a synthetic preparation, can be readily produced in standard qualities, and is, therefore, very much more reliable than cocaine.

I shall not deal with the formulæ and preparation of cocaine and novocain, which are somewhat complex and out of place in a paper of this nature.

Novocain produces anæsthesia only when introduced into the body tissue. It is usually injected as a 2 per cent. solution in water made isotonic to the blood by the introduction of certain salts, which I shall describe later. Thirty c.c. is the maximum dose of the 2 per cent. solution, although the dose may be greatly increased if the dilution is increased; thus, 250 c.c. of 5 per cent. solution may be used, and is used in the field of general surgery.

Novocain is non-toxic and non-irritant, and it has, if anything, a stimulating effect on the heart, increasing both the pace and force of the heart. However, it compares unfavourably with cocaine and other preparations, such as urea hydrochloride, because of the shortness of anæsthesia obtained. The addition of adrenalin to the solution greatly increases the length of anæsthesia, and also, according to some authorities, its depth.

Adrenalin is the secretion of the suprarenal gland, and has the property of contracting the capillaries of the body. Owing to this vaso-constrictor action of adrenalin, its incorporation in the anæsthetic solution delays the absorption of the solution into the blood stream, extends the duration of anæsthesia and increases its depth.

With such a powerful and dangerous drug as adrenalin, great care is needed or the heart may become embarrassed by an increased blood pressure. Consequently, not more than .0001 grm. of adrenalin should be injected at one time, and the next injection of adrenalin postponed until the action of the original injection has worn off.

As adrenalin restricts bleeding its use in high concentration for tooth extraction anæsthesia is often the cause of a dry socket; it is often advisable to have a solution with one-quarter the amount of adrenalin when anæsthesia is used for tooth extraction.

I have mentioned isotonicity. An isotonic solution contains salts of the same character and normality as those in the blood. The body tissues are bathed in a serum containing a certain proportion of inorganic salts. If pure water is introduced into the tissues a difference in osmotic pressure between the water and the fluid in the tissue cells occurs and water diffuses into the cells, causing swelling, which is a probable cause of pain following an injection.

It follows, therefore, that our anæsthetic solution must be isotonic. and this is done by adding blood salts to the solution. Ringer's solution, an isotonic solution of blood salts, consists of:—

Sodium chloride	.5	per cent.
Calcium chloride	.04	,,
Potassium chloride	.02	,,
Distilled water	99.44	,,

But why the calcium and potassium chlorides? They form only a small proportion of the salts, and we really only require a solution of the same osmotic pressure as the blood; so I am in favour of a normal saline solution owing to the simplicity and, therefore, accuracy with which it is prepared; .9 per cent. of sodium chloride in distilled water is a physiological saline solution.

Should antiseptics be incorporated in the solution? If we prepare our solution with sterile components as it is required and boil it immediately before injection we are sure it is sterile. But all this measuring and mixing and boiling takes time, and if there is one thing in a busy dental practice that must be saved, it is time. It would save time, then, if a stock solution was kept ready in the surgery and drawn off as required. But can a stock solution like this be kept sterile? Perhaps. But there must be no perhaps in the technique after which we are striving. A few bacteria—from the air even—may use the solution as a culture medium.

All solutions that are to be kept in stock should contain some antiseptic body. But the common antiseptics would cause as much damage as the bacteria once they were injected into the body. So we must use very dilute or very mild antiseptics, whose disadvantages are outweighed by the enormous advantage of preventing infection.

Very dilute phenol—1 per cent. or less—has little effect on the tissues. Recently a substance known as "Rivanol" has been introduced from Germany. This is safe and painless, giving good results even when injected into areas of acute inflammation, although it produces considerable swelling. A small tablet of Rivanol, .1 grm. in 20 c.c. of solution, is quite safe and efficient. The prevention of contamination is the ideal, and I shall discuss this when I come to the choice of apparatus.

No one likes an injection, especially in the sensitive mouth, and many patients seeing the preparations, lasting several minutes, develop nervous symptoms and at the finish of the injection show all the signs of shock—psychic shock. Strychnine, 1/64th gr. or less, added to the solution will brace up the muscle tone and prevent the distressing feeling of faintness which otherwise may be experienced by the patient.

A stock solution may then be made up of:—

Novocain	.8 grms.
Adrenalin	.001 grms.
Sodium Chloride	.36 grms.
Rivanol	.2 grms.
Strychnine	.03 grms.
Distilled water to 40 c.c.	

Not more than 2.5 c.c. should be injected at a time owing to the amounts of adrenalin and strychnine.

Nowadays, novocain preparations are put up by the various manufacturers in no less than five different forms:—

Tablets;
Ampoules;
Cartridges;
Ground-Glass Stoppered Bottles;
Rubber Stopper Bottles.

The "E" and "F" tablets prepared by the Saccharin Corporation are familiar to all. The "E" tablets contain .02 grms. of novocain and .00005 grms. of adrenalin, so that one tablet per c.c. of solution gives a 2 per cent. solution of novocain and 2 c.c. of this solution contains .0001 grms. of adrenalin—the safe dose. "F" tablets contain .05 grms. of novocain and no adrenalin, so that one tablet in 2½ c.c. of solution gives a 2 per cent. solution of novocain. "F" tablets are, therefore, very useful for increasing the quantity of solution and, at the same time, keeping the amount of adrenalin within the safety limit. The tablets are put up in sterile tubes and the operator makes up his own solution in a little porcelain cup, which is graduated in c.c.'s. If we wish to make 7 c.c. of solution we pour in 7 c.c. of normal saline and add 2 "F" tablets. Boil for 2 minutes and add 2 "E" tablets. When they are dissolved the solution is ready for injection. The "E" tablets are not boiled because boiling decomposes the adrenalin. A pink colouration is the first sign of decomposition, and if the colour becomes brown or red the solution should be discarded.

In boiling up the solution we choose the lesser of two evils. For if we sterilise the solution by boiling it becomes concentrated and hypertonic. In practice we do a little of each—half sterilise the solution and make it slightly hypertonic. This is really done as the quickest method of dissolving the tablets. But, anyhow, it seems most unsatisfactory.

In the ampoule we have the really safe aseptic method of keeping a stock solution. But here we have to take the manufacturer's solution, as the making of the ampoule with the ordinary resources of the dental laboratory presents insurmountable obstacles. All the same, in my opinion, the ampoule is the best method of storing novocain. It is also the quickest method of filling the syringe.

The cartridge is an ampoule with rubber ends adapted for the special "Cook" syringe, and has the advantages of the ampoule with the disadvantages of the rubber stopper bottle.

The bottle is an abomination. It so easily collects dust and bacteria. It is a slur on the dental companies that they still boost apparatus that is 20 years out of date. In the rubber stopper bottle the solution is kept sterile, but the cork, through which the needle is thrust, unfortunately, is not. In fact, several deaths in Australia were traced to an infected rubber cork.

In view of this I have devised a modified rubber stopper bottle, in which the cork is at the bottom of a glass tube. The tube is filled with antiseptic solution and the cork is thus saved from contamination.

The D.M.Co. washerless syringe provided in our outfit seems to fulfil all requirements. It is readily sterilised by boiling, it works easily, and a successful syringe must work smoothly and easily. It is heavily plated and unaffected by either antiseptic or anæsthetic solutions. It does not leak, and the parts are standardised and replaceable.

The cartridge syringe depends on using the rubber bung in the cartridge as the plunger, and this is neither smooth nor easy to operate.

Another type of syringe depends on the displacement of the solution by a plunger working in a washer. This washer is unsatisfactory, being made of some organic matter, and there always seems to be the difficulty of completely emptying the syringe of solution.

There are three lengths of needle made for use with the syringe—40, 20 and 15 mm. The 40 mm. is imperative if regional anæsthesia is attempted, while the shorter needles are used for sub-mucous injections. Needles are made in soft steel, stainless steel and iridio-platinum. The steel needles are made from ingots which are drilled and drawn down to the required thickness. The lengths are then cut, the soft metal hubs fitted and the points ground. When the needle is screwed on to the syringe the soft metal hub is squeezed out to form a perfectly water-tight joint. Unfortunately, when the syringe attachment gives little room for expansion the hub expands at the expense of the lumen of the needle. Brass wire bristles are provided to retain the lumen patent, and the latest hubs are made cup shaped and of a stouter alloy which does not squeeze out as the older hubs used to do. An Ash adaptor can be fitted to the syringe, and this gives plenty of room for expansion on screwing the hub home. The adaptor may also be removed with the needle *in situ*, as a second squeezing of an old needle hub is certain to result in obstruction of the lumen.

Stainless steel needles should be used, as these are cheap and may be boiled, kept in antiseptic solutions and used several times. They are harder than the soft steel needles, but their thickness obviates the danger of breakage. The only needle I have seen broken in the mouth was a plain steel needle. These are liable to rust and roughness, which result in dirt and bluntness.

Iridio-platinum needles are made rather thick, but the stainless steel needle has entirely superceded the blunt and costly needle of iridio-platinum.

Needles should always be sharp. To test for roughness pass the needle into a cotton wool roll; if shreds of cotton stick on withdrawal it is rough and should be discarded. Bent needles should be discarded. They have been very definitely strained, and the use of a bent needle becomes a dangerous proceeding.

The syringe hubs as provided are long and short, with an angle adaptor. The long hub should not be used, as the needle always breaks where it emerges from the syringe hub, and the length of needle in the hub is worse than useless, as it handicaps the operator by robbing him of the control he has over a short needle and syringe.

When the needle is screwed into the syringe, test all the joints for tightness by driving the needle of the syringe, containing a little solution, into a rubber block and exert a good pressure. If breaking occurs tighten up the erring joint until, on testing, the syringe is found water-tight.

Two syringes at least should be ready for use in the surgery. One with a long, the other with a short needle. The syringes are sterilised by boiling after use and are then kept in a special jar containing an antiseptic solution, such as 2 per cent. phenol, plus 20 per cent. glycerine, which gives body to the solution and acts as a lubricant.

Periodically, the syringe should be dismantled and cleaned. It should be carefully checked for wear on assembly and lightly lubricated with carbolised vaseline.

Next, we have to consider the methods of making the injection. These depend on the operation which is to be performed—extraction, pulp removal, removal of an epulis or some other operation within the field of dental surgery.

The periodontal membrane and the immediately adjacent bone and gum are the only structures which are to be considered when a tooth extraction is performed; the pulp must be anæsthetised for conservative work, and for extensive oral surgery it may be necessary to block off large tracts of tissue.

The simplest and most common injection is the sub-mucous. The solution is placed under the mucous membrane immediately over the apex of the tooth which is to be anæsthetised. The solution infiltrates the bone through minute foramina

and presently finds its way to the apex of the tooth, where it renders the tooth and all the surrounding structures insensitive.

The operation is carried out thus :—

The syringe, fitted with a short needle, is filled with solution. Air bubbles in the syringe are removed by tapping the syringe in the upright position ; the bubbles rise to the top and a slight pressure on the plunger expels the air. The mucous membrane of the sulcus over the tooth is dried and weak tincture of iodine rubbed in to sterilise the mucous membrane. The cheek—or lip—is pulled out and, at the point of reflection, of the mucous membrane from the alveolar border, the needle is inserted and pushed in until the point of the needle lies over the apex of the root. The tip of the first finger is placed over the position of the needle point and two-thirds of the solution are slowly injected.

A similar injection is made on the lingual side, the needle point being placed on a level with the apex of the tooth and the remainder of the solution placed here. Extraction anæsthesia is immediate and pulpal anæsthesia follows in about two minutes. The anæsthesia lasts about an hour, which is ample for any ordinary work.

The periodontal injection is limited to extraction anæsthesia. A very thin needle has to be used, a dangerous proceeding, and this is slowly passed down the periodontal membrane, which is much damaged in the process, so that chronic inflammation sets in if extraction is not carried out.

On the interdental table in the molar region are seen some foramena, in the largest of which the needle may be stuck ; these have been suggested as short cuts to the cancellous bone. Unfortunately, it is very difficult to stick the needle into one of these foramena, and much damage can be done probing about for them.

About the mandibular molars the bone is very dense—*i.e.*, there is little alveolus, and infiltration becomes impracticable. Again, for extensive operations, a series of sub-mucous injections are contra-indicated because of tediousness and the excessive amount of adrenalin contained in the total solution injected.

To overcome these difficulties regional anæsthesia is employed. By regional or block anæsthesia is meant the anæsthetising of a nerve supplying an area or series of teeth, and to be successful with these injections the operator must have a knowledge of general anatomy and of the second and third divisions of the trigeminal nerve in particular.

The most commonly employed regional injection is the mandibular. It has a complex technique, but when successful it produces a wonderful result : complete anæsthesia extending from the third molar to the canine tooth, on the side injected, and often beyond or even over the mid-line.

Both jaws have two circles of nerve supply. One which supplies the outer alveolar plate and the pulps of the teeth and one supplying the inner plate. This must be borne in mind when extracting a tooth, as failure to anæsthetise the inner alveolar plate is bound to lead to pain while operating.

Fortunately, where the mandibular nerve enters the mandibular foramen it is in the immediate vicinity of the lingual nerve which supplies the inner alveolar plate as well as the tongue. It is the operator's object to place his solution over the mandibular foramen, which is situated about the centre of the ascending ramus. There are two methods—direct and indirect. The direct method is the better, but it necessitates a thorough familiarity of the anatomy of the region of the mandibular foramen, and this is only acquired after performing many injections by the indirect method, which I shall describe first.

The mouth is wide open and the operator feels for the internal oblique ridge with his forefinger, which is placed along the occlusal surfaces of the cheek teeth. A long needle is then inserted by this ridge half way up the finger nail with the barrel resting on the lower central incisors ; the needle is then run along the bone over the periosteum by feeling with the needle. The needle is bound to push the internal pterygoid muscle out of the way, as the syringe barrel is moved over to the other side of the mouth. After inserting the needle about 20 mm. it will fail to strike bone—it is now over the foramen. Push in a little and the ramus beyond the foramen is encountered. In this position $1\frac{1}{2}$ c.c. of solution is injected. The remaining $\frac{1}{2}$ c.c. is injected as the needle is withdrawn to make sure of catching the lingual nerve.

In the direct method the needle is thrust straight through the internal pterygoid muscle at a spot about half-an-inch behind the indirect injection and, with the syringe barrel over the opposite premolars, it is thrust home until bone is encountered. It is advisable to move the needle about and inject an area over the bone, as this improves the chance of success.

If a mandibular injection is successful, the lip generally tingles in a minute or two, and in about five minutes the whole alveolar ridge and teeth on the side of the injection are anæsthetic. At times the anæsthesia fails to develop for an hour or so after injection.

In the lower molar region the long buccal nerve supplies a varying area of mucous membrane in the buccal sulcus, and for other than conservative work in this region it must be dealt with. In

conjunction with the lingual nerve it is supposed by Stewart and Wilson to enter into the innervation of the mandibular cheek teeth pulps, so a partial anæsthesia from an injection of the mandibular and lingual nerves may become complete when the long buccal nerue is injected.

In the maxilla the posterior superior alveolar nerve, which supplies the upper molar teeth with the exception of the anterior buccal root of the first molar, is very easily anæsthetised. A short needle is used with the angle or bayonet attachment, and is inserted at the point of reflection of the buccal mucous membrane from the gum opposite the posterior buccal root of the second molar; the needle is now in an upwards and inwards direction, keeping close to the bone for about 15 mm. The injection is made with the needle making an up and down motion. The reason of this movement is that the needle point is in the neighbourhood of the pterygoid venous plexus, and by accident the whole solution might be poured straight into the blood stream. Anæsthesia is rapid.

By using a similar technique and a long needle the whole second division may be anæsthetised as it emerges from the foramen rotundum and crosses the spheno-maxillary fossa. This injection takes about half an hour to produce anæsthesia, and there is danger of over-shooting the mark and injecting the optic nerve.

The infra-orbital and mental foramena when injected result in anæsthesia of the first premolar, canine and incisor teeth. The foramena are palpated—*i.e.*, the operator taps his finger over the area around the foramen until a dull pain is felt; he then places the ball of the middle finger of his left hand over the foramen, using the first finger and thumb to reflect the lip. The needle is inserted under the middle finger and the syringe emptied. In five minutes a pulpal anæsthesia is obtained.

Accidents do happen, but they may be minimised by making certain routine precautions.

A needle should never be inserted up to its hub. A needle always breaks by the hub when it is strained, and a buried needle offers no chance of easy recovery.

Perfectly aseptic methods must be employed. The bevel of the needle should point towards the bone, so that it does not stick in the bone or tear up the periosteum—a source of pain, present and after.

Cases must be carefully chosen.

Eighty per cent. of needle breakages occur in the indirect method of doing the mandibular injection. They occur when the syringe is swung to the opposide side of the mouth, and the pressure of the internal pterygoid muscle on the long needle causes leakage. The danger is exaggerated if an old or flamed needle is used, and rapid motions of the syringe lead to loss of control and mean that greater force is used. If the needle breaks at the hub and leaves a little showing, a pair of square-nosed pliers may be employed to pull the needle out before the patient realises that anything has gone wrong. A false move by the patient and the needle is gone. If a portion of the needle is left buried, tell the patient what has happened and X-ray. Only operate if there is any danger. A piece of sterile steel does no great harm until it fouls some important structure. The patient should be periodically radiographed to keep the needle under observation and control.

Syringes are kept in antiseptics. Phenol has been considered. Alcohol is a common substitute, especially for surgical instruments, but in the tissues it destroys the nerve sheath and even the nerve, causing paralysis and loss of sensation. Syringes for regional injections should not be kept in alcohol. Lysol is as bad.

Finally, comes the most debatable question of the scope of local anæsthesia, Can it be used for any operation in our sphere? The very young are very impressionable and the performance of an extraction under local anæsthesia, although painless, is very real, and a dental complex may be created that will last through life. The very old suffer from arterio-sclerosis and high blood pressure in whom the injection of adrenalin may result in too severe a strain on the heart. Local anæsthesia is somewhat ineffective in elderly people.

Diseases that produce high blood pressure—*e.g.*, chronic nephritis—obviously contra-indicate adrenalin. Nervous patients are subject to psychic shock when the anæsthetic is injected.

Septic mouths are full of bacteria. When a mass of bacteria is introduced with a needle it is set down in ideal surroundings. The mucous membrane may be very resistant, but the sub-mucous tissues are never prepared for invasion by swarms of virulent bacteria.

Injection into an acutely inflamed area produces no anæsthesia, while at the same time it increases tension and pain and disturbs the protective mechanism of the body to the advantage of the invading micro-organisms.

Extensive operations occupying a long time and the use of considerable force by the operator with removal of bone and loss of blood are doubtful cases to be operated under local anæsthesia.

The removal of an unerrupted tooth is as serious as that of a toe at the very least. Such operations should be treated in the manner that the general surgeon treats his cases—in a theatre with a general anæsthetic, and the patient should be a bed case for a day or two. Such operations, though really minor, are our major operations, and this must be realised.

Reviews.

A Manual of Physics for Medical Students. By HUGH C. H. CANDY, B.A., B.Sc., F.I.C. 3rd Edition. Foolscap 8vo. 488 pages; 299 Figures in the text. Published by Messrs. Cassell & Co., Ltd. *Price 7s. 6d. net.*

IN this book the author deals with all sections of physics included in the syllabus of the Pre-Medical Examination of the Conjoint Examining Board. He has incorporated with the elementary theory of physics experimental illustrations of the more important physical propositions. The book is divided into six parts. The first five sections are concerned with the theoretical aspect of general physics, heat, sound, light, electricity and magnetism. Part six is devoted to practical physics. In this section a large number of exercises in experimental physics which the student can carry out in the laboratory are described. A number of useful tables form an appendix.

The association of practice and theory is in every way desirable and should be encouraged, but many will wish that section six of the book had been omitted and the space so obtained used in slightly extending and amplifying those sections devoted to theoretical physics. In the opinion of many, experimental details can only be learnt in the laboratory, and are best dealt with by the demonstrator. In so far as written instructions are desirable they are of sufficient importance to be given in a separate book on practical physics.

The diagrams in the section on light would be much improved if the direction of the rays of light was more clearly indicated, and one exercise in part six is apt to be misleading to the student and is open to criticism. In spite of these defects the book should be popular with medical students. It is clearly written and easily read. There is very little overlapping of superfluous matter. The student will find that the book contains sufficient to enable him to pass his Pre-Medical Examination in Physics.

The Practice of Refraction. By W. S. DUKE-ELDER, D.Sc. St. And., F.R.C.S. Published by Messrs. J. & A. Churchill, London. *Price 12s. 6d.*

ONE usually finds that a mathematical presentation of the practice of refraction acts as an immediate deterrent to those who otherwise would kindle an interest in the subject. Mr. Duke-Elder has wisely eliminated complicated mathematical formulæ from his book. He states in his preface, and one is in entire agreement with him, that the essential principles of the correction of defects in the optical system of the eyes and their associated muscles can be appreciated in non-mathematical terms. This work will therefore at once commend itself both to the student and to the practitioner.

He rightly stresses the exigency of working in good illumination, the avoidance of all eye strain and care in the treatment of refractive errors, especially in the young. These rules should be rigidly adhered to when a hereditary tendency to myopia exists, and the eyes examined periodically. The book is well produced, and is certainly deserving of popularity.

Lectures to Nurses. By MARGARET S. RIDDELL, A.R.R.C., S.R.N. 3rd Edition. *Price 6s.*

THIS revised edition of Miss Riddell's book is up to date in nursing treatment and should prove of value to nurses preparing for their State examinations.

Miss Riddell describes the treatments in detail in simple language that may be understood by all, and her book covers a wide area.

The sections on nursing of special operations ought to be particularly useful and also the glossary of technical terms at the end of the volume. Other special features are chapters on surgical tuberculosis and new growths.

A Handbook for Nurses. By J. K. WATSON, M.D.

THE above book contains in a compact form all the subjects that it is necessary for the present-day nurse to know something of. The chapters on dietetics, venereal diseases and electricity are especially interesting and useful.

One is also pleased to see included a chapter on the *actual nursing* of a sick person. The author stresses the importance of tact, sympathy and quietness on the part of the nurse towards her patient—such essential factors in good nursing.

In short, this is a book which nurses will find useful on all occasions.

The Tonsils and Adenoids and their Diseases. By IRWIN MOORE, M.B., C.M.(Edin.). Published by Messrs. Wm. Heinemann (Medical Books), Ltd. *Price 21s. net.*

ONE might imagine that it would be difficult to write a book of nearly 400 pages on this subject. The author of this volume has succeeded in writing a very complete account of their anatomy and uses, their diseases and their treatment. In fact, one feels that practically everything that has ever been said about the tonsils has been included.

There is little doubt that the urge to write this book was very largely due to the author's views

on hæmorrhage. Ten pages are devoted to complications other than this and 63 pages to the subject of hæmorrhage alone, and in support of its importance he quotes no fewer than 114 different authorities. It is surprising to find that emphasis is not laid on the danger of venous bleeding, and no mention is made of the so-called "para tonsillau" or "vertical" vein, for a slit in its wall is a most potent cause of hæmorrhage likely to continue unless the vein be torn across.

In the account of the anatomy one might have expected the structures lying outside the superior constrictor muscle to be mentioned. Chronic abscess of the tonsil should have received more prominence than a mere mention in a book of this size.

In dealing with primary chancre of the tonsil, quinsy is not included in the differential diagnosis, and yet in two of three cases seen recently an attempt had been made to open the "quinsy." Deep X-ray therapy should have been mentioned in dealing with sarcoma of the tonsil. The illustrations are fair.

These are, however, only slight drawbacks to a well written and complete book. It is extremely readable, and the author is to be complimented on the very complete lists of references and the detail of the large index. To anyone interested in the subject the book should prove very useful.

Recent Advances in Physiology. By C. LOVATT EVANS. Published by Messrs. J. & A. Churchill. *Price* 12*s.* 6*d.*

THIS book, in general, maintains the high standard set by the two previous editions, and its popularity is demonstrated by the fact that this is the third edition within the space of four years. A new feature of this edition is the chapter on the subject of the clumaxie, and this gives as simple an account of its significance and measurement as we have met. Most of the work on this comes from our French neighbours, and is in a very scattered form. We therefore welcome this summary in English. The other new chapter deals with the nervous impulse, and gives a reasoned view of its nature and properties.

The one criticism is the increasing tendency to give advanced mathematical formulæ in dealing with many of the physiological phenomena encountered. In our opinion, this should not be encouraged in future editions, for in a book of this size it is impossible to give the reasoning on which such formulæ are based, and simply to cite a formula by itself is of little advantage, but only tends to confuse the reader and give false ideas of the basis of physiology.

Apart from this, the subject matter of this book is presented in a very readable form, and should be studied by everyone entering for the B.Sc. Examination of the University of London in Physiology and for the Primary F.R.C.S.

Notes on Dental Anatomy and Physiology. By T. W. WIDDOWSON. 5th Edition. Published by John Bale & Sons. *Price* 25*s.*

THE fact that this work is now in its fifth edition testifies to its popularity. From a notebook it has now so grown that its present title is misleading, for the reader will find it a fully developed elementary text book.

The book is well written and copiously illustrated with some new line drawings and microphotographs.

The chapter on growth of the jaws, incorporating Professor Brash's latest work, is excellent. We can thoroughly recommend this concise volume for the student from the examination point of view, and it certainly fulfils the other purpose assigned to it by the author—a ready work of reference for the busy practitioner.

Guy's Hospital Reports, Vol. 78 (Vol. 8, Fourth Series), No. 4. October, 1928.

THE present number of the *Guy's Hospital Reports* ably maintains the high standard that is traditional with this characteristic Guy's production. Dr. Hurst is once more to be congratulated on a good number.

Major J. B. Hance contributes an excellent paper, based upon observations in the North-West Frontier Province of India, on *Malaria as an Independent Ætiological Factor in Portal Cirrhosis.* The evidence that Major Hance brings to prove that malaria is a definite and independent predisposing cause of cirrhosis of the liver is convincing. He considers portal cirrhosis to be the response of the liver to long-continued toxæmia, and not a disease *sui generis*, and he points out that if the toxins elaborated in the spleen can produce such a condition in the liver as Banti showed occurred in splenic anæmia, as Day showed in schistosomiasis, as Rogers in kala-azar, there is no *prima facie* reason why malaria should not act as a cause equally with these diseases. He brings a series of 20 cases of cirrhosis of the liver—in two of which autopsy confirmed the diagnosis—from which all the usually accepted factors, including alcohol—for the patients were Mahommedans—can be excluded, and in which every case showed positive evidence, both in history and in splenic puncture, of prolonged and intense malarial infection.

Dr. Gillespie gives a learned account of *Hypochondria*, in which he appeals for a definite nosological status for this as a disease apart from the hysterias, anxiety states, schizophrenias and paranoias, the conditions for which it is most frequently

mistaken. The differences between the various conditions are demonstrated by means of a series of 13 cases, only 4 of which can be considered to be cases of pure hypochondria. We agree with Dr. Gillespie that his general conception gives a basis for the isolation of hypochondria as a clinical reaction type in its own right, but we feel that his view of the psycho-pathological importance of anal-erotism and homosexuality is over-estimated. The importance of sex in psychological medicine is undoubtedly great, but the present tendency to ascribe all abnormal traits to repressed sexual complexes is to be regretted.

Four cases of gastric hæmorrhage due to the hæmorrhagic diathesis are described, two of whom were treated by splenectomy. In his commentary on a case of hæmatemesis and purpura, Mr. G. W. Rake boldly states that "if hæmophilia be excluded, it seems doubtful if a true hæmorrhagic diathesis occurs." The rest of the number is devoted to accounts of interesting cases from Clinical.

Sport

Rugby

Guy's v. R.N.C., Greenwich

ON Wednesday, January 23rd, Guy's entertained the Royal Naval College, Greenwich, at Honor Oak Park, and were successful by a placed goal and a try (8 points) to 0.

The side which gained such a brilliant victory at Birkenhead Park on the preceding Saturday again represented the Hospital, but several members of the Naval XV were making their initial appearance this season for the College.

On paper Guy's appeared to have quite an easy task, but, although the backs were given numerous opportunities, very little progress was made.

No doubt this was due partly to the state of the ground, which was very slippery, owing to the thaw which followed a severe frost.

On the other hand, the sailors were very keen and fearless in their tackling and seldom allowed any of the attacks initiated by Wilson and Windsor Lewis to develop.

One might say that the visitors were at times too keen, as in their anxiety to prevent the ball reaching Wilson from the scrums they were too apt to be offside.

However, Wilson was a live wire behind our excellent pack, and was very quick in getting the ball to his partner, Windsor Lewis, who initiated attack after attack.

The only score of the first half was obtained by Lewis, who broke through on his own, followed up a short punt and secured the touch down near the posts, which Hogbin easily converted.

After the breather Guy's attacked continuously, but the visitors kept them out until near the finish, when Robinson crossed their line for an unconverted try.

Guy's Team—D. F. Ryan; T. G. Robinson, I. K. Thomas, F. H. B. Spence, W. Lewis; Windsor H. Lewis, I. C. Wilson; J. R. F. Popplewell, C. D. Malone, R. A. P. Hogbin, G. F. Lashmore, A. R. Clarke, T. Morgan, J. S. Batchelor, D. S. Clogg.

Guy's v. Gloucester

PLAYING at home on Saturday, January 26th, Guy's gave a dazzling display, and gained a decisive victory by 1 goal and 3 tries (14 points) to 0.

The wonderful exhibition given by the team was a revelation to those who have watched the fortunes of the Hospital this season, although, after their fine victory against Birkenhead Park, Guy's were expected to give the Citizens a very close game. Not only did they do this, but they completely mastered the visitors in every phase of the game.

The back division gave a vastly improved performance, and in no game at home this season have they been seen to better advantage. In fact, the whole team worked like a smooth-running machine without a weak link anywhere.

The forwards held their own against a heavier pack, and not only heeled well but were conspicuous in several fine rushes.

Wilson and Windsor Lewis were again excellent at half, whilst the threes seldom faltered and executed all their movements with superb precision. Ryan at full back was very safe, and on several occasions initiated an attack which gained a lot of ground.

For the first 10 minutes of the game Gloucester played with only 13 men, but during this period Guy's could only score an unconverted try. Even when the visitors had their full complement they could not withstand the continuous onslaughts of Guy's, who played brilliantly throughout.

From the kick-off the visitors were kept on the defensive. W. Lewis found touch in the corner and, following a fine movement between Windsor Lewis, Thomas and Robinson, the latter crossed for a good try.

The Hospital forwards made a determined rush to Gloucester's 25, but an equally fine attack by the opposing pack carried play to our 25. W. Lewis intercepted a pass near our line and found touch.

Good work by W. Lewis, Windsor Lewis and Thomas was checked by the visitors full back, but immediately afterwards Windsor Lewis made an excellent attempt to drop a goal and only missed by inches.

Keeping up the pressure Guy's nearly added to their score, but Robinson was brought down on the line after a fine run. The threes were soon in action and the ball was sent along the line to W. Lewis, who cross-kicked, but Malone knocked on with the line at his mercy. Further clever work by the threes was rewarded when W. Lewis got away on the wing and after side-stepping two opponents gave to Thomas, who ran over for another unconverted try.

Hogbin and F. H. B. Spence were both prominent in finding touch from awkward positions.

After this Gloucester pressed for a time. They carried play to our 25 and things looked dangerous when Ryan was collared in possession on the goal line. However, from the scrum Thomas brought relief with a splendid kick to touch near midfield.

The second half opened with Guy's pressing, and in a few minutes Spence took advantage of a bad pass between the visitors' threes. Gathering the ball in his stride and running strongly he was able to send Robinson in for another try, which was not converted.

Very soon afterwards, and following a rush by our forwards, Gloucester were penalised for offside, and Hogbin just missed from an easy position. A fine movement between the threes ended when W. Lewis was collared near the corner flag.

Offside against Guy's brought relief to the visitors, who found touch near our 25. Ryan relieved with a fine kick. Sterling work by Popplewell, Lashmore and Hogbin enabled W. Lewis to find touch well inside the Citizens' 25. Exciting play followed when the latter cleverly intercepted a passing movement between the visitors' backs and broke through with Spence. The ball was sent along the whole line to the right wing, where Robinson completed an excellent movement with a try in the corner. Hogbin converted with a splendid kick.

A ding-dong struggle followed, with exchanges fairly even. After a time Gloucester broke through, but Ryan was in position and relieved. Several times Gloucester pressed, but our defence was equal to all demands, and before the finish the threes finished up a good afternoon's work with some glorious bouts of passing.

No further scoring took place, and Guy's fully avenged the defeat they received at Kingsholm earlier in the season.

Guy's Team—D. F. Ryan; T. G. Robinson, I. K. Thomas, F. H. B. Spence, W. Lewis; Windsor Lewis, I. C. Wilson; J. R. F. Popplewell, C. D. Malone, R. A. P. Hogbin, G. F. Lashmore, A. R. Clarke, T. Morgan, J. S. Batchelor, D. S. Clogg.

Association Football Results

Jan.		*Opponents*		*Result*
5	2nd XI	Employees	W	5–1
9	2nd XI	Westminster Hospital	W	10–4
12	1st XI	Lloyd's Sports Club	D	3–3
16	1st XI	University College	W	7–3
16	2nd XI	University College 2nd XI	W	4–2
19	1st XI	H.A.C.	L	2–3
19	2nd XI	H.A.C. Reserves	L	3–6
23	1st XI	Emmanuel Coll. (Camb.)	L	3–10
23	2nd XI	Royal School of Mines	W	5–4
Feb.				
2	1st XI	London School of Economics (*2nd Rd., London University Cup*)	L	0–2

Hospital Information, etc.

Pass List

ROYAL COLLEGE OF SURGEONS
PRE-MEDICAL EXAMINATION

Chemistry and Physics

W. G. Scoble
*A. C. Fuller
‡D. H. Robinson
†M. H. J. Simpson
†P. K. Perren
†R. O. F. Tilleke

* Chemistry only
† Physics only

Papers by Guy's Men

H. C. Cameron, M.D., F.R.C.P. Underlying Disturbances of Metabolism of the Nervous Child, *Brit. Med. Jour.*, 1929, i, 185.

Guy's Hospital Gazette.

(ESTABLISHED 1872)

The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.

EDS. { O. P.
E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLIII *23rd February* 1929 *Number* 1059

PASSIM

ALWAYS we have harboured a singular dislike of things political, and this, no doubt, because we lack an adequate economic knowledge, and also that niggling, almost legal, turn of mind so necessary to their proper enjoyment. Politics, then, leave us as cold as the recent frost, which is saying a great deal, seeing that we are resident in the College, but there is at the moment one phase of Parliamentary activity which serves to warm our sluggish circulation to some sign of life. We find ourselves interested, and even concerned, to watch the supreme skill with which a Government performs its pre-election laparotomy upon an ailing electorate. With what consummate accuracy the Spencer Wells of new rating is applied to industry, elsewhere the crude rougime of re-assessment. How keen the readiness of the Budget knife to extend the gaping incisions that already yawn in that most feeble member the national income, and yet how calm the utter disregard of urgent financial hæmorrhage from a minor yet not unimportant structure—the Voluntary Hospital.

Although in our own case we learn that a considerate local assessment has reduced the loss, in certain provincial centres the new Act is likely to cause considerable increase in the rating charges, thereby placing the voluntary hospital at a great disadvantage when compared with State supported organisations. Surely here is a case where needy Peter has to pay far more than his fair share to comparatively opulent Paul, while both are expected to join hands in pious co-operation to a common end, and perish the thought of all rivalry.

Not a little disturbed, we creep out of the political theatre lest we spoil the asepsis.

▭

WE hear that a General Court of the Governors has confirmed the appointment of Leslie John Witts, M.D., M.R.C.P., to the post of Fifth Assistant Physician. Dr. Witts, who will take up his duties in March next and has medical experience at Cornell, Prague and Cambridge to his credit, more recently held the post of Assistant to the Medical Unit at the London Hospital.

▭

WE are indebted to Sir William Hale-White for a cutting from *The Times* of over 100 years ago. It runs as follows :—

TUESDAY, JULY 3RD, 1827

The following is a comparative statement of the medical and chirurgical establishments of the undermentioned public hospitals in London, and of the number of patients relieved at each for the year 1826 :—

Guy's Hospital—In and out-patients, about 20,000. Physicians, 3 ; assistant ditto, 1 ; surgeons, 3 ; apothecary, 1 ; total, 8 ; house-pupils, 3. Grand total, 11. N.B.—The out-patients are only seen once every week.

London Hospital—In and out-patients, 7,250. Physicians, 3 ; surgeons, 3 ; assistant ditto, 1 ; apothecary, 1 ; assistant ditto, 1 ; total, 9 ; house-pupils, 2. Grand total, 11. N.B.—Out-patients are attended to every day in the week.

St. Thomas's—In and out-patients, about 10,553. Physicians, 3 ; assistant ditto, 1 ; surgeons, 3 ; apothecary, 1 ; assistant ditto, 1 ; total, 9 ; house-pupil, 1. Grand total, 10.

St. Bartholomew's—In and out-patients, about 10,778. Physicians, 3 ; surgeons, 3 ; assistant ditto, 3 ; apothecary, 1 ; total, 10 ; house-pupils, 2. Grand total, 12.

*** The statement with regard to Guy's Hospital was afterwards amended. The out-patients were said to be more numerous than the total of patients would suggest, and some cases were seen "frequently in the week."

Twenty thousand patients and a staff of one under the dozen sounds uncommonly like the present surgery on a Monday.

▭

WE offer our heartiest congratulations to Mr. R. S. Harrison on his success in gaining both Certificate and Prize for his essay on "The Symptoms and Sequelæ of Encephalitis Lethargica," submitted in the annual competition held under the auspices of the British Medical Association.

THE recent " Going-Off " Dinner, perhaps somewhat less exuberant than usual, gained considerably in novelty by reason of the more or less impromptu performance of the Residents' play which followed as well as the deafening consecration of at least one classic for future occasions.

Mr. T. G. Scott is elected the new President of the Residents and Mr. S. I. Abrahams Vice-President.

WE are asked to announce that a Boxing Match in aid of Guy's Hospital and the Film Artists Guild will be held at the Stadium Club on Friday, March 15th, when a hospital side will oppose a team of famous film stars. Both sides are out for blood as well as money, so that the prospects of a good evening are assured. If, as is rumoured, the Residents have signed for a custard pie contest with the film comedians, we are prepared to lay heavy odds on the former.

To receive letters is pleasant enough. To receive them from the Colonies or abroad still more so. Dr. E. L. Crowther, who writes from Hobart, Tasmania, can surely be regarded as the *doyen* of Colonial medicine, for at the age of 85 he is still actively at work. To him Guy's is ever the one hospital of hospitals, Sir William Gull its greatest teacher, and he feels strongly that " for the man who has to stand alone in the out-country with neither skilled assistance nor proper material too much of the past has been thrown away." Perhaps cupping and the actual cautery dragged with them in their relegation to an inevitable obscurity too much of the older wisdom.

From Dr. Gerald Webb, of Colorado Springs, Colorado, U.S.A., we have received a copy of his recent biography of Lænnec, with a request that it should be handed to the Hospital Librarian for the use of students. He makes this gift in appreciation of the many kindnesses shown him when studying here himself. We have placed this volume under the care of the Wills Librarian, and confidently recommend a highly interesting and well written life story of the originator of auscultation.

IT is with great regret that we record the deaths of two old Guy's men who were more than prominent in provincial circles. Mr. John Sharp was one of the oldest practising medical men in Great Britain and qualified at Guy's in 1868 when 21 years of age. After holding several resident posts here he became House Surgeon at the old Derbyshire Infirmary, and thus commenced a life-long association with that institution and its parent community. Ultimately, as Consulting Surgeon, he played an important part in the reorganisation which led to the establishment of the " Derbyshire Royal," and his active work in this direction continued to within a few weeks of his death.

Dr. John Owen qualified at Guy's in 1897. He returned for further medical study in 1903 after the South African War. Proceeding to M.D. in 1906 and M.R.C.P. in 1908, he commenced a distinguished career at the Liverpool Royal Infirmary, to which he was Consulting Physician at the time of his death.

Some Notes on the Choice of an Anæsthetic

A Paper read before the Reading Pathological Society by H. Parry-Price, M.R.C.S.,

MR. PRESIDENT AND GENTLEMEN,—These few notes make no pretence of being a paper ; they are merely haphazard jottings with regard to anæsthetics in general made during the past three or four years. Some of the subjects touched upon are of a rather controversial nature, and so I hope they may be the subject of some discussion later.

Such a subject as this could hardly be complete without reference to the preparation of the patient and to records of a few actual cases. Taking first the preliminary preparation of the patient, I wonder if many people have noticed how much better a sudden emergency case often does, with no preparation, than the one with an elaborate preparation. I think the starvation and preliminary purging are often grossly overdone. At all events, a light meal should be allowed up to three hours before the operation and fluid should not be withheld at all. The withholding of fluids is, I am sure, a leading cause of post-anæsthetic vomiting. Aperients are better given 36 hours before the operation, and only in the case of a rectal operation should an enema be given.

Bromides are useful for one or two nights previous to operation. A good way is to combine the bromides with some alkaline preparation, such as bicarbonate of soda or milk of magnesia.

Plenty of water should be allowed during the day before operation, and preponderance should be given to the carbo-hydrate elements in the diet.

Mouth hygiene is of the greatest importance and is often overlooked. Post-operative pneumonia —met with, unfortunately, by most practitioners —is usually due to septic teeth or a septic state of the nasal sinuses.

One other point with regard to the administration of nitrous oxide for dental extractions. The feet should rest on the ground and not on the foot-rest of the dental chair ; then, should the body become rigid under the nitrous oxide, the head will not be pushed back off the head piece, as it would be if the feet were held on the foot-rest.

THE USE OF NARCOTIC DRUGS BEFORE OPERATION

Personally, I always order atropin before all operations. Morphia is contra-indicated before operations upon the nose and throat, and also in all operations where an open anæsthetic has to be administered, as the anæsthetist, with an open method, has not sufficient control over the respirations of the patient.

With a closed anæsthetic, such as gas-oxygen-ether, shallow respirations can be overcome by re-breathing in and out of the bag, or else by the running in of a little CO_2. The subject of CO_2 and re-breathing will be touched upon again later.

With an open method respirations are often too shallow after morphia to allow the patient to inhale enough of the anæsthetic to become properly anæsthetised. In this connection I have once or twice had to ask the surgeon to make a slight incision, with the patient only half under the anæsthetic, in order to get him breathing at all.

We aim, by giving these preliminary medications, at :—

(1) Getting a tranquil state of mind in the patient ;

(2) Counteracting surgical shock ;

(3) Increasing the effect of the anæsthetic ;

(4) Prolonging analgesia after operation ;

(5) Rendering effective an anæsthetic otherwise too light—*e.g.*, gas and oxygen.

Morphia is in any case withheld from infants and the aged. The use of morphia before pure chloroform is always a danger owing to the depressing effect of the former upon the respiratory centre.

The use of atropin alone is devoid of all risk.

Before spinal and local analgesia there is every advantage in employing sedative drugs ; the same applies to rectal ether.

THE CHOICE OF ANÆSTHETIC

For routine use nitrous oxide with oxygen for induction, passing on to ether and, perhaps for a short time, CE mixture on a mask, is probably best.

Chloroform by itself should be avoided whenever possible.

Some four years ago I used pure chloroform to induce anæsthesia in a man aged 34, who was to have a tumour removed from the abdominal wall. After five minutes the respirations became shallow, the colour of the face became grey and the pulse stopped. The patient was removed immediately from the anæsthetic room to the theatre, an incision was made and the heart, which was not then beating, was massaged at once. It restarted and the operation was completed. No doubt the surgeon, Mr. Clarke, will confirm this case.

An induction with gas and oxygen does not necessarily mean the use of a face piece and a bag. I often induce small nervous children by allowing nitrous oxide to blow straight through my fingers with my hand held over the face, simply holding the tube between my fingers.

I think that it is most important that small children should be scared as little as possible before operation.

With nervous women one can often run gas in under an ordinary face piece and then, when they are unconscious, turn on to whatever form of anæsthetic is necessary.

Nitrous oxide is a very heavy gas and tends to sink straight down on to a patient, therefore the need of a closed apparatus is really negligible for a simple induction.

Prolonged plastic operations upon the face are best dealt with by means of intra-tracheal ether. This is also ideal for laminectomies and brain operations, where the patient may have to lie on his face for anything up to three hours.

We have done two or three brain operations in the Royal Berkshire Hospital lasting for three hours with intra-tracheal ether.

Gall bladders are often difficult and require a deeper anæsthetic than any other operation with the exception, perhaps, of hæmorrhoids.

Intra-tracheal ether, by practically abolishing respiratory movements, is ideal for high abdominal operations. All movement of the diaphragm seems to be abolished when supplying ether through a tracheal catheter.

Whilst on the subject of high abdominal operations, mention should be made of the combination of local anæsthesia for relaxation, with gas and oxygen, to keep the patient quiet.

The progress of modern anæsthesia cannot be fully related without drawing attention to the increasing importance of local methods. Naturally, this is most evident in countries where general anæsthetics have not received the special study which has been bestowed upon them in Great Britain and America. Consequently, it is in France and Germany chiefly that the principles and technique of local analgesia have been evolved and promulgated. The advantages of combining general and local methods are becoming more and more apparent.

The anæsthetist of to-day has many methods at his disposal. The success of each case depends upon his choosing the right anæsthetic agent and the right method of administering it. I have to thank Mr. Joyce for my own experience of this method, the technique of which he brought back with him from the Continent. The ordinary infiltration with local anæsthetic is carried out over

the area of incision with the patient under a light gas and oxygen anæsthetic. After the peritoneum has been opened, a long needle is passed into the splanchnic plexus and several syringefuls of solution are injected. The actual injection appears to give a considerable amount of pain, shown by the straining of the patient during the process. This injection gives absolute and complete relaxation for high abdominal operations, such as cholecystectomy, gastro-jejunostomy, etc.

So far, in the few cases done here in the hospital, the recovery has been wonderful and there has been no complications whatever.

With such large amounts of fluid to be injected it would appear that there might be some risk of peritonitis if the utmost precautions were not taken with regard to the sterility of the solutions.

CHILDREN

Tiny seven-week children are often operated upon for hare-lip and cleft palate. I find they are best induced with a mixture of chloroform and ether, then carried along with warmed ether and oxygen through a Shipway's apparatus, the vapour proceeding along a rubber catheter previously inserted through one nostril.

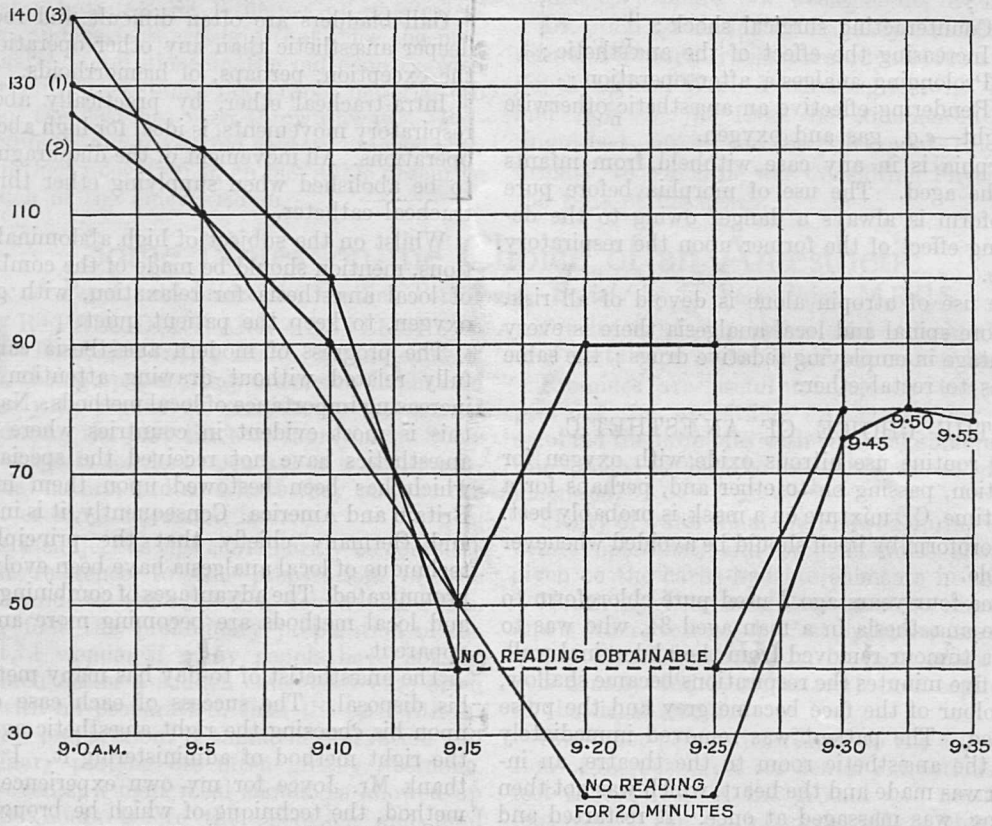
I have never had any lung complications arising from the administration of warmed ether to even the smallest child.

With children of the ages of four and five it is most important that they should not be too scared before operation, and these are the cases that are best induced quickly with gas before passing on to the selected anæsthetic.

PROSTATECTOMY

Another difficult problem is the selection of an anæsthetic for prostatectomy in old men of round about 70. It used to be considered that the safest method was a spinal. This, unfortunately, is not the case, as is proved by one or two blood pressure charts which I have copied and distributed. The fall in pressure occurring with spinal analgesia is nearly always swift and always severe—*i.e.*, from 140 systolic to 50 in 10 minutes.

SPINAL ANÆSTHETICS—BLOOD-PRESSURE CHART



(1) Mr. I.—Prostatectomy, June 26th, 1926, age 68. Asthmatic. Adrenalin and Pituitrin 9.20 a.m.
(2) Colonel X.—Prostatectomy, July 3rd, 1928. Adrenalin 9.15 a.m.
(3) Mr. P.—Plating of Femur, Nov. 26th, 1928, age 62. Adrenalin Saline Intravenously 9.35 a.m.

Ross Mackenzie of Aberdeen records the following case :—

A female of 57 years, operated upon for abdominal pain. Before operation pulse 84, blood pressure 140/90. 0.7 c.c. light stovain was administered, and 10 minutes later the operation commenced. Twenty minutes after the commencement the pulse was 100 and the systolic blood pressure 90. There was respiratory distress and slight cyanosis. The abdomen had been opened, pulse rapid and feeble, respirations slow and shallow. Pituitrin was injected and oxygen given with some slight improvement. Thirty minutes after commencement respiration completely failed, and this was immediately followed by failure of the heart.

Ross Mackenzie, commenting on this case, says that he regards sepsis as a contra-indication to spinal analgesia.

I myself have taken several blood pressure readings during spinal anæsthetics, and I have also got one or two that have been taken by the Residents at the hospital. These all show most alarming falls in the systolic blood pressure about 15 to 20 minutes after the injection.

I consider that this proves that spinal anæsthetics are far from being the safest, particularly in old people with flabby heart muscles.

The blood pressure charts show well the rapid fall and the time at which this generally appears to take place. No spinal anæsthetic should ever be undertaken without having the means at hand to deal with this sudden fall in blood pressure.

Our own routine is to have ½ pint of warm saline solution with 5 m. of 1–1,000 adrenalin all ready for intravenous injection immediately that systolic blood pressure gets below 100.

ADMINISTRATION OF CARBON-DIOXIDE IN ANÆSTHETICS

The administration of a mixture of carbon-dioxide and oxygen in conjunction with general anæsthetics has been practised in America for a number of years.

At the end of an operation conducted under open ether or a CE mixture the exhibition of a mixture of 10 to 15 per cent. carbon-dioxide in oxygen in a gas bag promotes de-etherisation and lessens post-operative nausea.

This practice would seem to be of definite value at the end of a high abdominal operation, in the course of which the movements of the diaphragm are liable to be hampered. By assisting in the early re-establishment of diaphragmatic activity the mixture may well remove the tendency to stagnation at the pulmonary bases, and will help in the prevention of post-operative pneumonia.

Opponents of the use of narcotic drugs before operation allege that the shallow movements of the diaphragm, caused by morphia, and lasting four or five hours after the operation, are the cause of post-operative pneumonia, but by the use of carbon-dioxide it would seem that one may quite safely use morphia before an operation.

The effect of carbon-dioxide on the respiratory movements is most striking within three or four seconds of its administration.

In induction the respirations may be so stimulated that with the exaggerated ventilation of the lungs a large supply of anæsthetic at a safe concentration may be rapidly inhaled. However, with regard to induction, there is an objection that arises in practice which is not apparent in the laboratory.

Anyone who has experienced the sensation of anæsthesia with nitrous oxide or ether through the medium of forced breathing will assert that he has no desire to repeat the experience. There is no doubt that the physiological method is safe and certain, but it is extremely uncomfortable as compared with a more gradual induction.

The value of forced breathing to rid the body of inhaled anæsthetic is another matter, and appears to be a most valuable addition to the anæsthetist's powers to avoid deleterious results from his administration.

It is obvious that so efficient a weapon as carbon-dioxide needs careful handling, and scrupulous control must be exercised of the percentage of vapour administered after anæsthetics.

THYROIDECTOMY

Most surgeons will agree that a light anæsthetic is the ideal in these cases. For this reason intratracheal ether is ruled out owing to the depth of anæsthetic necessary before it is possible to pass the tracheal catheter without risk of injury to the vocal chords.

The best anæsthetic is a local + gas and oxygen or light ether, or else rectal ether, which latter may yet prove to be the best of all. Rectal ether gives a very light anæsthesia, and is of little use where muscular relaxation is essential.

The patient is usually so light that she emits an occasional moan or groan.

We have done three or four selected cases in the hospital, and all with good results.

Our technique of rectal ether is as follows :—

Castor oil, fluid ounce 1, on two successive nights preceding the operation.

Luminal, grains 1, on the night before the operation.

Soap and enema, followed by a colonic irrigation, on the morning of the operation.

One hour before the operation the patient is sent to the etherising room, where absolute quiet must be observed, and is given by bowel 2 drachms of paraldehyde, ½ ounce each of olive oil and ether in which 5 grains of chloretone have been dissolved. The mixture is introduced very slowly, the rectal tube is clamped for a few minutes and then withdrawn.

One half-hour before the time set for the operation, unless contra-indicated, morphine grains 1/6th and atropin grains 1/150th are given hypodermically, and at the same time the balance of the ether-oil mixture. With the patient on his left side, 1 fluid ounce of 65 per cent. solution of ether in olive oil for every 20 pounds of body weight is allowed to flow slowly from a funnel into the rectal tube. This amount, however, should not exceed 8 ounces. The rectal tube is clamped and left *in situ*.

At the conclusion of the operation what remains of the mixture in the bowel is drained off and, after irrigating the bowel with 1 pint of water, 4 ounces of olive oil with 4 to 8 ounces of black coffee are introduced and the rectal tube withdrawn.

Care must be taken during the operation to see that the mouth and nose are in no way obstructed, so that the breathing is not impeded.

In the case of children no preliminary treatment is necessary save atropin, and the amount of ether should not exceed 1 fluid ounce per 20 pounds of body weight.

For thyroidectomy the patient can be given a rectal wash-out in bed every day for three or four days, and then, on the day of the operation, the enema contains ether unknown to the patient, who drops asleep in bed, is carried to the theatre asleep and only wakes up after the operation is completed.

In conclusion perhaps I should explain and apologise for the roughness and brevity of these few notes.

I have endeavoured to pick out the more controversial subjects in order, if possible, to cause some discussion and to hear the views of other members. Only by frank discussion between anæsthetists and surgeons, and the co-ordination of the views of both can we advance this great art—"The Art of Anæsthesia."

The Residents' Play

"THIS YEAR OF GREYS;" OR "THE POETRY OF PRO.'S"

THE production of a play by the Residents is nowadays an event of outstanding theatrical importance and in the *Observer* it appeared under the heading of dramatic events of the week something like this: Monday, The Stage Guild in *Medea*, a Tragedy by Euripides; Tuesday, The Residents in Guy's Annual Play. One was therefore prepared for the statement in the GAZETTE that a special dramatic expert had been asked to report upon the play. I was the more surprised therefore to be informed that I was the expert in person. To my objections that in the first place, while I made frequent efforts to be dramatic, I had never made any claims to be in any sense expert, and that, in the second place, I was unable to criticise the Drama as I had no knowledge of the subject. The Editor replied that hitherto ignorance of the subject under discussion had never noticeably affected my criticisms, and while I was considering the true significance of this thrust he pressed a ticket for a bad seat into my hand and told me "to go and do well." In an earnest endeavour to fulfil his exhortation I made a rapid study of the art of dramatic criticism as practised by Mr. St. John Ervine and Hannen Swaffer. I found that the fundamental necessity was to say that the show was rotten and this could be done in two ways. I could say, with Mr. Ervine, that the play was an insult to the intelligence of the audience and that the insult would have been grosser if the inept acting of the so-called actors excited any emotion but derision, which itself would have been greater had not the words of the play been inaudible to all but the musically trained ears of the orchestra, but that, on a survey of the over-fed half wits who surrounded him, he realised that they were getting what they deserved. Alternatively, I could say with Swaffer that the play was amiably acted by the actors and he felt that quite probably the author had the best intentions and that there might be some who would find it to their taste, and that if one had really nowhere else to go one might possibly spend an hour or so there no more unprofitably than elsewhere.

Having discovered that whatever the method the first essential was Murder, I was unable to decide which weapon I should finally adopt and accordingly, armed with the blood-stained hammer of Mr. Ervine and the poisoned stiletto of Mr. Swaffer, I set off for the scene of action. Resisting the well-meant efforts of the Commissionaire to take my equipment and keep it in the cloak room, I was conducted to my seat by the most handsome

of a glittering group of ushers to the luxuriously padded fauteuil provided for the Press and, laying the tools of my trade on the seat in front of me, I sharpened my pencil, set my teeth, and prepared for the worst. While listening to the overture and resisting with difficulty its efforts to charm my savage breast I decided in what order I would employ my clubs. First, I would use my gory mace for felling purposes and then my stiletto for flaying the writhing carcase and searching out any vital part that might still be capable of sensation. Then—since after all one had a free seat and *noblesse oblige*—one might sprinkle a few of one's more faded flowers on the mangled remains, and so to bed with the consciousness of a good act well done.

The overture ended, the President and Vice-President appeared and made a most moving appeal for toleration.

> You'll see some of the Staff
> And Nurses who allure.
> If you can't raise a laugh,
> We hope you will endure.
> Will it cause you to grieve ?
> Will it cause you to heave ?
> Your indulgence we beg
> If we should pull your leg.

But I steeled my heart and took a firmer grip on my hammer. This was going to be easy, and then—Arethusa appeared and with her the beauty chorus, and in a minute all my murderous intentions were forgotten. I laid my weapons at their feet and sank into a tonic state of enjoyment with clonic attacks of helpless laughter. Only when I tottered out on reluctant feet at the end did I realise that I was a Failure—that I had betrayed my trust and actually enjoyed the play I had come to slay.

The plot, as befits all orthodox musical comedies, was simple, not to say exiguous. Reduced to its lowest common multiple it was as follows : Surgery and Physiology combine in an experiment on rejuvenation ; the experiment becomes a Sex problem. Youth comes to the rescue of age ; all the lovers are united. Happy ending—what a surprise ! Everybody happy at Guy's.

The first act opens in the Physiology Classroom, where preparations are being made for a nurses' lecture by Dr. Prembray. Sister Arethusa enters and, after Butcher and she have concealed their mutual love from each other, but revealed it to the practised eyes of the audience, "her little

GIRLS OF GUY'S

Left to Right: Naughty (D. Ellis), Tummy (B. Wills), Snorty (E. Conybeare), Sister Arethusa (T. Scott) and Bummy (E. Pye-Smith)

brood. . . . Her little wonders of Nature " came in, a veritable dream of " fair women." Seldom can a more beautiful chorus have appeared together on any stage and, although the task is well nigh impossible, I should award the golden apple to that personification of It, Miss P—e-S—h, whose buxom charms might well command the favourable attention of Mr. Cochran.

Arethusa and her lambs burst into song and skip as befits their name.

Arethusa :

Slanderers say that the Nursing Staff
Is not what it used to be.
But those in the know can afford to laugh—
They've only to look at me.
And here I've brought to back me up the younger generation.
I hope they'll play their part in life and meet with approbation.

Snorty :

Now, my name is Snorty I'd have you know,
My motto is Damn and Blast.
I recently hit Mr. Cook's R.O.
On the head with a cranioclast.
When Mr. Gibberd came along to voice his indignation,
I said to him, " You go, my lad, to blazes and damnation ! "

Tummy :

My name is Tummy, my ward is Vic,
I've only to eat a rasher,
And I go all girlish and feel quite sick
Till treated by Osman Pasha.
He gives me lots of sugar in amazing concentration.
Good-bye to acidosis and that nauseous sensation !

Arethusa :

She suffered from glycopænia,
Until her Sheik Man came.
But ever since Osman's been here
She's stopped that little game.

Bummy :

I am called Bummy, and loved by all,
My figure is simply " it."
From surgeon's room to the Wardmaid's Hall
They call me their " little twit."
And little Dr. Ironside likes my artless conversation.
His collar's symbolic of wings of a dove in fluttering adoration.

Chorus : Girls of Guy's, Girls of Guy's,
Just give our girls their due.
Advertise their sparkling eyes
From Maze Pond to Peru.
What do we know of failure ?
What do we know of shame ?
From Bridge House to Australia
We always play the game.

While Butcher is making love to Arethusa—off stage—the pro.'s, led by Nurse Snorty, discuss their plans to overthrow the domination of the Sisters and to have absolute freedom in the wards and hospital. Snorty declares her intention to call a strike unless their demands are accepted by the Matron, and all declare their loyalty to the cause of independence for women. Fortunately for them, Dr. Prembray, whose well-known voice is heard outside, enters too late to overhear this unphysiological declaration, or else he would certainly have forgotten his lines in his indignation. At least I think he would, because, personally, although it says that Mr. McConnell was acting the part of Dr. Prembray, I believe that ——. However, be that as it may, Dr. Prembray delivered his lecture in Rabelaiseian style and introduced naturally into his address one of his pedigree herd of Sussex shorthorns, which made a personal appearance and brought down the house by its dancing. It was a spotted cow, but rumour has it that the cow had more spots than appeared on the surface.

No sooner had the lecture ended than Mr. Blank Look appeared and Dr. Prembray and he discussed the new extract of carotid bodies, whose injection was to make the old young again and, incidentally, bolster up the falling birth rate. They discuss the selection of a suitable case and the eligibility of the Cow is considered, but is rejected by that quadruped and by Dr. Prembray, who, fired off by a slighting reference to the Cow as an " animal," exclaims : " Didn't I teach you in the old days ? Woman is an animal and Man is a Beast." It is finally decided to use a patient in Vic., and after Arethusa and Butcher (W. Hudson) have put across their Greta Garbo and John Gilbert stuff with great effect, the curtain falls on the dance of the Lambs and the Cow to the rousing strain of *Girls of Guy's*.

Act II takes place in Vic. Ward, which has been reorganised in accordance with Snorty's ideas, and the Beauty Chorus is disclosed for our entrancement, singing :—

Everything is new here ; here's the great experiment.
Everyone's a Blue here, all is fun and merriment.
Everyone is willing to be up and doing.
All the Nurses billing, all the Housemen cooing !
How d'ye like this curtain ? How d'ye like our livery ?
The sun shines bright for certain upon the new midwifery.

But, under the surface of all this bliss, the experiment is turning out a trial, and the beautiful Snorty, whose energy brought about the reforms, must have had doubts about the joys of Creation when her efforts to have the baby bathed are met with the remarks : " Do it yourself. . . . To Hell with you. . . . I'll see you in Isolation first. . . . I'm not going, so hot packs to you." After an affecting scene of reconciliation they all go off to Mary Ellen's for coffee, and the drawing of the bed curtains reveals in their respective beds the front and hind legs of the cow, which are called Mrs. Preevy and Mrs. Breech, alias Messrs. Rickett and Abrahams. These worthies shake their heads at the going's on of the pro.'s, and but for " Mac-

Queer—that luvverly doctor"—they would not stay a moment, and then, moved by deep religious fervour, Mrs. Preevy bursts into an anthem of praise.

The world's a place of gloom and sin—
At least, the world the Borough's in.
But there is one to whom you'll pin
Your faith if you are wise.
When you are born—Oh, fateful day!—
Who is it comes and born's you, pray?
(Unless you are a B.B.A. !)—
The Gentleman from Guy's !

And, later, when you've D. and V.,
And scarlet, mumps and morbilli,
Who sees you in the Surgery
Where anxious mummy flies?
And when he has your chest percussed,
And seen your throat with some disgust,
Will not admit that he's nonplussed—
The Gentleman from Guy's !

When next you come with growing pains,
Who is it says it's either drains
Or streptococci in long chains
That make you agonise.
And who will later muck about
Your teeth and, if there's any doubt,
Will gladly yank your tonsils out?
The Gentleman from Guy's !

Who does a Steindler on your sole,
And makes your mastoid one big hole,
And takes away your bloody mole—
Should such a mole arise.
Who does appendicectomies,
And hyster- and nephrectomies.
In fact, takes out your innards—he's
The Gentleman from Guy's.

And when your liver gets cirrhosed,
And arteries are all sclerosed.
Who is the man who diagnosed
The trouble from your eyes?
Who, when the trouble gets much wuss,
Takes up his knife to drain the pus,
Or murmurs "Wassermann ++"—
The Gentleman from Guy's !

Of all your organs you're bereft,
And when at last there's nothing left,
Who venesects with fingers deft,
Or who is it that tries?
And when your final hour has come,
And angel harps you long to strum,
Who puts you in his Museum?
The Gentleman from Guy's !

Gawd, Gawd bless 'im; Gawd, Gawd bless 'im.
Gawd bless the Gentleman from Guy's.

Vivian Vertex and the ever lovely Snorty appear and, in the words of Melodrama, plight their troth and sing a duet with a most haunting refrain.

After this romantic interlude Tragedy stalks swiftly from the wings and overwhelms Mr. Blank Look, who a moment before had been artlessly warbling about the goods it was his life's ambition to deliver. Dr. Prembray and he carry out their experiment on Mrs. Preevy. The injection is

Mr. Breech is overcome with joy? (Act II)

delivered with a syringe which must have come from Dr. Prembray's farm, and, Horror, when the bed curtains are pulled back by frantic hands, Mrs. Preevy is discovered with a magnificent red beard and moustache ! All is confusion, and even Dr. Prembray, while proclaiming without conviction his credo "all things work together for good," admits his inability to see what can be done, when Vivian Vertex remembers that the antidote to Dr. Prembray's plasma has been discovered in a clinic in Moscow and, nobly offering to fly in Mr. Look's aeroplane, is sped on his journey by Snorty's kisses while the curtain falls on the roar of the engine and the resounding cheers of all.

The next act takes place in the Front Lodge and, although it has no obvious connection with the plot, it served as a useful vehicle for the entrances of large numbers of the Staff. In the opening scene various House Officers are discovered dancing to while away the weary hours of waiting for their bosses to arrive, what time they carol *Oh, de Massa, Why Don't He Come?* A very pleasant tune it was, and its appeal presently took effect, for a being, in a large overcoat, a squash hat and an umbrella, alleged to be Mr. Savies Brolley, appeared first and said "Howevah" at intervals, but soon disappeared to have a look inside. Close on his heels appeared Mr. Lollison, impersonated by the versatile McConnell, but in no way perturbed by the multiplicity of the disasters which had overtaken his patients, disappears murmuring, without conviction, "How very provoking." Willespie (Maister) appeared and

disappeared talking unintelligibly in Scotch. Mr. Fleward (Plowright) appeared, but did not stay long, as he had a committee. Various other people appeared and disappeared. Bells rang. Relatives made inquiries and received non-committal answers. A House Officer appeared and expressed his intention of taking the Sister of his choice to an afternoon's entertainment in Theatre I to see *To What Red Hell*, featuring Frankie and the Diathermy machine, or to Theatre 13 to see Mr. Slashburger in *Such Men Are Dangerous*. More bells ring; the junior pro.'s hold a meeting of protest outside the Matron's House. In fact, the act gave a very good representation of the organised disorganisation of an average afternoon in the Front Lodge. At the end of the act the authors suddenly remembered that there was a plot, and we gathered that the police were on the track of Mr. Blank Look for the abduction of Mrs. Preevy, and on that concession to those who demand that an act should have some bearing on the action of the play the curtain fell.

The next act was in a male ward and Blushing Bessie (Miller) was revealed apparently sitting all by herself in the moonlight and lifting up her extremely pleasant voice in song. When she had finished the first verse the moonlight obligingly shifted and revealed the spectral face of Bill Guiness (Pye-Smith), who opened his toothless mouth and joined in no less tunefully in a refrain whose melody haunts me yet.

DREAMING

Bessie :
They call me Blushing Bessie, and I know I'm not a swell.
But, though I look prosaic, yet I have my dreams as well.
The other night I dreamt I saw a ball with lots of dancers,
There was Matron there with Conybeare a-doing of the Lancers.
There were lots of lovely dresses—none so sweet as Sister Gale's.
She performed, with Philip Turner, quite the latest thing in Yales.
It was a lovely sight, but things are not what they are seeming,
For when Miss Shepherd did a jig—I knew I must be dreaming !

Bill :
I also dream—the other night I saw an operation
Performed by Bobby Rowlands with extreme deliberation.
At length I gained the Quadrangle—the cars were there in hordes.
The surgeons all had driven up in 1920 Fords.
Except an elegant Rolls Royce, the property of Tubby,
And one electric scooter which was scooted here by Chubby.
They all were funny sights, but things are not what they are seeming,
For when Hurst rode a tricycle—I knew I must be dreaming.

Bessie :
I dreamt I walked along the Park, I wandered in a stupor,
And there were roaming, hand in hand, Miss Huggett and the Super.
And Bromley was arriving there quite punctually at ten,
While Ogilvie compared results of scalpel versus pen.
And Treth was there describing his new duodenal feeds,
While Mutch informed Lord Lysol of the thousand drugs he needs.
The cream of Guy's collected there, if things are what they're seeming,
But when Gillespie wore a kilt—I knew I must be dreaming.

Bill :
I dreamt I went round Lazarus with Chubby—what a crush !
And though he spoke to Sister twice she didn't even blush.
And Sister Stephen wouldn't ask an H.P. into tea,
And Sister Naaman hadn't really taken her M.D.
And moonstruck Sister Christopher forgot her youthful follies.
And Sister Bright, by candle light, was not like Nellie Wallace.
They all were lovely sights, but things are not what they are seeming,
When Sister Dora kissed a Nurse—I knew I must be dreaming !

Both :
I dreamt that we had conquered the diseases that defeat us.
I dreamt that Dr. Poulton had a cure for diabetes.
I dreamt that Mutch had done away with rheumatoid arthritis,
I dreamt the O.P.O.'s had cured the Borough of bronchitis.
I dreamt that Dr. Douthwaite with his serum didn't shock us ;
He really cured the 'flu and killed the wily streptococcus.
I dreamt some lovely dreams, but things are not what they are seeming,
For when I saw Cornelius Ward—I knew I had been dreaming !

I dreamt that Guy's was subsidised by order of the State—
They raised us £50,000 by Municipal Rate.
I dreamt the X-ray people were both accurate and swift,
I dreamt you never had to wait an hour for the lift.
I dreamt the Nurse's rooms were simply bowers full of roses,
I dreamt the College dinners weren't offensive to our noses.
I dreamt some lovely dreams, but things are not what they are seeming,
For when I saw Guy's falling down—I knew I had been dreaming !

When more light was thrown on the scene poor Mrs. Preevy is found concealing her misfortune, as a bed patient in a men's ward, and the sympathy which Nurse Snorty feels for her makes her think of her dear Vivian winging his perilous way across the frozen steppes and, as is the way of musical

comedy heroines who feel that way, she sang a sentimental, syncopated ditty which was one of the hits of the show. As she weeps miserably to herself, Arethusa, ever the good fairy, anxious to see, as she says, "Love and happiness everywhere," asks her to call her strike off, and at Snorty's request she goes off to find Dr. Coneydear—that ever sympathetic Father Confessor of the Nurses—to appeal to Snorty's better nature. To the notes of the *Dead March* the combined round, headed by Curst and followed by Pyle, Willespie and Slymonds, march in solemnly and intone in Gregorian style :—

Now we are the Subacute Round,
Our fame is justly renowned.
Although we've combined,
Each speaks his own mind
And thinks all the others unsound.

Their hearts apparently lightened by the steam they had let off, the round unbent and danced to the tune of *Here We Go Gathering Nuts in May*, and off they go to Fairy Ward, where Curst has a case of asthma, "a woman who can't go to Salisbury because she gets an attack every time she remembers she prefers Switzerland." This last scene of the combined round was one of the best things of the evening, and when the author of the *Guy's Hospital Reports* returns from his Swiss winter sports I venture to think that he will have an audience the size of which will astound him, although he will have very hard work to be as good as himself as McConnell was. Dr. Coneydear shortly appears and in dulcet voice tells us in a few words the abbreviated story of his life and, incidentally, boosted his book with an epithet which I do not remember to have seen quoted in the publisher's press notices.

I'm a rather lucky dog,
I live in the College.
With a pal along I jog
Seeking out new knowledge.
When we want to banish care
We play the gramophoney.
My pal he is called McNair,
And everybody calls me Coney.

THE SUBACUTE ROUND

Left to Right: Dr. Willespie (H. Maister), Dr. Slymonds (D. Ellis), H. P. (M. Shaw), Dr. Pyle (R. Harward), Dr. Curst (W. McConnell) Patients (E. Graff and W. Miller)

The Super yearly has to go
Where Mrs. Eason's bent is.
And I remain here *in loco*
Superintendentis.
I play golf at Huntercombe,
Morris is my crony.
In my car there's lots of room,
So come and have a game with Coney.

I have only one small fad,
I just can't stand women.
They attack some helpless lad;
Nice mess they get him in!
I'll keep single for a bit,
Don't like matrimony.
A game of golf, a gin and it
Are really quite enough for Coney.

Heard about my ——— book
For the young physician?
You should come and have a look;
Buy a first edition.
Jack and Tidy, Price may rave,
Poulton may look stony.
Osler's turning in his grave,
But what the devil's that to Coney?

When the King was taken ill
Howitt went to the Palace.
They sent for Dawson, Shipway, Dodds,
But didn't ring up Challis.
They sent for Stanley Hewitt then
To give Mist. Belladonnæ.
They sent for lots and lots of men,
But no one ever sent for Coney.

Events now move swiftly. The police arrive to arrest Mr. Look; Vertex arrives in the nick of time with his antidote, Mrs. Preevy undergoes yet another metamorphosis and prepares to return to Vic; Snorty falls into Vertex's arms, Arethusa falls into Butcher's arms.

Happy ending—what a surprise!
Everybody's happy at Guy's.
Arethusa, Butcher has got,
Snorty's satisfied with her lot.
Dr. Hurst's contented with life,
Coney's going to get him a wife.
Cupid's master, Cupid has come.
And as for us, we are going;
Yes, we are going,
Really are going home.

and to the chorus of *Girls of Guy's* the curtain fell on the best Residents' Play since—but why should the almost legendary MacTreth be the final and absolute standard of merit—and one of the best Residents' Plays ever. The book by Abrahams and Hudson was clever and witty and the authors were fortunate in their musical collaborator, Mr. Ive, who wrote all the music, and this although I am not the musical expert of the GAZETTE and belong to the category of those "who know what they like."

Many of the tunes would be the rage of London if they had a wider public, and I would look to *Dreaming* to oust even *Sonny Boy* from first favour.

As for the acting, the general level was very high and the prompter was the only member of the cast who was inaudible. The highest acting honours go to Conybeare as Snorty, who was a most natural and seductive nurse, with eyes and

THE CAST, PRODUCER AND ORCHESTRA

a voice which thrilled the audience, and to McConnell, who was more like Dr. Prembray, Dr. Curst and Mr. Lollison than those gentlemen themselves could ever hope to be. When I see that histrionic chameleon, Mr. McConnell, engaged in his work at the Hospital, I look on him with awe as a man with no fixed personality at all, who might before my very eyes, Jekyll-like, turn into myself or Miss Huggett or the Matron's cat or anything vegetable, animal or mineral he might fancy. It is impossible to speak of all who were excellent in small parts, but I must mention Tom Scott, who played Arethusa to the satisfaction of that lady herself, as well as to our own Rickett, as Mrs. Preevy, and Abrahams, who performed with distinction and faithfulness to life as the hind legs of the Cow, Mrs. Breech and Dr. Coneydear. The orchestra, under the direction of Ive, was excellent and the whole production was slickly produced by T. G. D. Bonar and E. T. Conybeare. The scenery by the Works Department and the nurses' costumes by Miss Shepherd were excellent, and a happy time was had by all.

IRVINE SWAFFER.

Useless Organs

A Paper read before the Physiological Society by Mr. W. P. Stamm

MR. CHAIRMAN AND GENTLEMEN,—The absence of a quality, such as utility, is hard to prove, since all evidence is necessarily of a negative character. The fact that an organ has no known use, or that its removal is followed by no apparent deleterious effects on the organism of which it forms a part, are not definite proofs of its uselessness. Its absence may be compensated for by greater development of another organ of similar function.

Before discussing the utility, or otherwise, of specific organs, it will be well to attempt to establish the fact that useless organs do exist, and to see how their presence can be explained by modern evolutionary theories. The strongest evidence for their existence would be the proven presence of actually nocuous organs. There are several well-known examples of harmful organs to which, in their present state, no use can possibly be assigned. The splint bones of the horse are the last stage in the disappearance of the lateral digits and the establishment of the monodactylous foot. They vary in size and when unusually large are the cause of clumsiness of movement. Another harmful organ is the "wolf" tooth of the horse. It is not regular in its appearance, but when it does appear it has to be removed, unless it is dropped in youth.

In civilised man the wisdom teeth are definitely nocuous. The complete absence of all four has no influence on mastication. No other teeth are so subject to disease and accident, dental caries being especially frequent in them. The membrane around them is subject to lesions by which the infection spreads to neighbouring parts. They have great difficulty in cutting the mucous membrane and are very irregular in their exact position. Galippe quotes a case in which a wisdom tooth, failing to cut the gum normally, pierced the cheek. This led to inflammatory suppuration of the cheek, with numerous fistulæ and inflammation of the masseter muscle, which made it impossible for the mouth to open. The patient died of meningitis, in spite of the extraction of the tooth from which the trouble had started. In uncivilised races teeth are generally sound. The explanation for this probably lies in the fact that the posterior dental portion of the jaw is always shortened in the civilised races, and so there is no adequate room for their accommodation. These examples should suffice to show beyond doubt the existence of useless organs.

It is not my intention in this paper to discuss the relative advantages of the various modern theories of evolution. I shall merely give a brief summary of the methods by which the most widely accepted theories attempt to explain the occurrence of useless organs.

The Lamarckians, with their doctrine of the transmission of the effects of use and disuse of parts, have an easy explanation of degeneration. But if the effects of disuse are transmitted, surely organs should completely disappear long before they become actually harmful?

It is more difficult for the Darwinians to find a plausible theory of degeneration. When an organ is actually injurious its gradual elimination can be explained easily on the principle of natural selection. A very slight degenerative effect may be accounted for on the principle of natural economy. But neither of these principles is adequate to account for the complete disappearance of organs which have no effects either one way or the other. Weismann, when confronted with the problem of explaining complete degeneration, formulated his theory of "Panmixia," which stated that when natural selection ceases its effect on an organ there is nothing to prevent minus variations from accumulating, the organ ordinarily being maintained in its complete state by their

constant removal by selection. The theory met with little approval, since the ordinary plus and minus variations, which were then thought to have selective value, are about equal. Thus, there was no reason why the plus variations should not accumulate as much as the minus. It has now been shown that ordinary plus and minus variations are purely somatic and are not hereditary. Those which are effective are stable changes in particular hereditary factors. These changes may result in large or small variations of the organism. They occur in many directions and are inherited according to Mendel's Law. The majority of them are failures from the standpoint of adaptation. This puts panmixia in a much more favourable light, and changes it from an incorrect speculation to an inevitable deduction from our present knowledge of genetics. But even if these principles already mentioned are still insufficient to account for complete degeneration, there is yet another process which is supposed to effect it. Natural selection does not deal with individual organs, but with the body as a whole. In considering parts in relation to selection there is a tendency to regard them as units and to discuss the effects of selection on them irrespective of the rest of the organism. But selection deals with complete organisms, not with isolated parts. Characters are symptoms of general organic differences and are not themselves causes of survival or elimination. Thus, a receding chin does not cause weakness of character, but it is an indication of it. The nature of variation is organismal, and so those which have a selective value in one part may cause others of a slighter nature elsewhere. The accumulation of this latter type may give rise to an infinite number of small variations of little value as long as they do not become injurious. These small variations, being probably of an entirely haphazard nature, would be chiefly of a minus character, and so would form an additional cause of degeneration.

The third important evolutionary theory is that of parallel induction. According to this theory, variations are due to the germ plasm being directly influenced at the same time as the somatoplasm. This method of influence must be carefully differentiated from that in which the Lamarckians believe, according to whom the germ plasm is influenced indirectly through the somatoplasm. These variations are haphazard in character and the nature of the influence is probably always chemical. All the changes take place in one generation, not by a gradual process, and they are more often disadvantageous than advantageous. There is ample evidence that such a process does exist, many people believing that it alone is sufficient to account for all the phenomena in evolution, though the majority prefer to take this theory in conjunction with one of the others. It is easy to account for the presence of us less organs on this theory, the variations being haphazard. In fact, it seems a little too easy. We should expect to find many more instances of evident uselessness than we actually do if we believed it alone. Furthermore, this theory is unable to account for any gradual degenerative processes, since the changes all happen in one generation. It seems to me that the best and most comprehensive theory is obtained by the amalgamation of that of the Darwinians and this latter one of "Parallel Induction."

Some of the more important organs of the human body whose utility has been questioned will now be considered, especially from the practical standpoint of the advisability of their surgical removal.

In 1903 Metchnikoff published his *Nature of Man*, and in it he claimed that the whole of man's large intestine is not only useless but harmful. He considered that poisons produced by its bacterial flora are active agents in the production of old age. He quoted the case of a woman whose large intestine completely atrophied, with no apparent harmful results. This he said proved that not only is this part of the alimentary canal not indispensable to healthy life, but that life may be maintained in the absence of the flora of the large intestine. He then said: "In spite of the progress of modern surgery I do not expect to find in our time that the large intestine will be removed by operation. Perhaps in the distant future such a proceeding will become normal."

Sir Arbuthnot Lane later performed this operation, but the results did not justify its continuance as a general practice, since the effects of the operation itself were too severe. But the case quoted by Metchnikoff does not prove that the removal of the large intestine of a normal person would not be attended with harmful results. The atrophy of the woman's large intestine would have been a gradual process, so that the body would have had ample time to readjust itself and compensate for the loss.

Metchnikoff went on to state that the stomach is an organ "that the human body would do well to be rid of" and that "the small intestine would take its place!" . . . Probably the most commonly removed organ in the body is the appendix vermiformis. Of this Metchnikoff said "that it performs no useful function in man is made clear by the existence of undisturbed health in persons from whom it has been removed." But this statement is based on grossly insufficient evidence.

since apparently undisturbed health, after the removal of the appendix, is no proof of its lack of useful function.

There is a widespread belief that the uselessness of the appendix is an undisputed fact, and this has led to its wholesale removal by many surgeons, especially in America. Actually, there is a very strong party who support the view that it possesses functions worthy of notice. In 1900 Professor Berry came to the conclusion that the appendix should be regarded as a specialised part, not a retrograde part, of the cæcum. In several orders of mammals the apical part of the cæcum has become specialised and demarcated from the rest of the cæcum as an appendix. It has never been suggested that the appendix of the rabbit, the lemur or the anthropoid apes is a vestigial structure. Yet the appendix of the gorilla and chimpanzee is so like that of man that it is doubtful whether an expert could tell one from the other.

In anthropoids the cæcum and appendix undergo the same changes in passing from infancy to adult as they do in man. The anthropoids are of extreme antiquity and, if their appendix is injurious or vestigial, there has been ample time for its complete degeneration. Its small calibre has been cited as evidence of its vestigial character, but according to Sir Arthur Keith it is "more in keeping with what we know of animal structure to regard smallness of structure as an adaptation to a peculiar, but unknown, function. We do not suppose the œsophagus to be a retrograde organ because it is narrow compared to the stomach; we, fortunately, know the function of the gullet."

Dr. Williams showed that intestinal and appendix concretions, and large bodies resembling gall stones sometimes found in the intestines, are allied in chemical constitution, being formed of fat compounds, and that similar changes so occur in the wall of the intestine itself. Concretions are not present in all cases of appendicitis, but the processes by which they are formed may go on in the wall of the appendix and give rise to conditions which allow for invasion by micro-organisms, and thus lead to the acute and chronic forms of the disease. These changes are the formation of calcium soaps in the mucosa and submucosa of the appendix. In cases of appendicitis these soaps block up the lumen of the glands. The changes produce altered conditions of the mucous membrane or form an impermeable barrier in the submucosa, cutting off the nutritive supply to the already altered mucous membrane. Invasion by organisms is thus made much easier. The nature of the fats in the food determines to some extent the nature of the fats in the tissues. Since it seems that these abnormal processes are set up by saturated fatty compounds, the nature of the fat in the diet might have some influence in their production. Statistics show an increasing occurrence of appendicitis in countries where much saturated fat is consumed. A change from a simple diet to a more complicated one seems to increase the liability to appendicitis. Thus, natives living on their own diet have practically no appendicitis, but living in civilised towns they are as prone to the disease as Europeans. Similarly, in Portland Prison, where, I am told, the diet is simple, there has been recorded only one case of appendicitis in 10 years. *We pride ourselves on our modern civilisation and on our wonderful minds, yet in developing those wonderful minds we seem to have lost our knowledge of what to eat!*

So far, I have shown that the increasing frequency of appendicitis is not so much the fault of the appendix as of ourselves. We have still to attempt to find a function for the appendix. The nasopharyngeal, facial and lingual tonsils, Peyer's patches, the solitary lymph nodules of the intestine and the vermiform appendix are all lymphatic in structure. Furthermore, they are all in positions where bacteria are liable to be present. Digby put forward an interesting hypothesis to explain the function of these apparently functionless organs. According to this hypothesis any bacteria which are in the vicinity are attracted by positive chemio-taxis, through the overlying epithelium, into the lymphatic nodule. The bacterial attack, having been invited into a region most favourable to the defensive mechanisms of the body, is nearly always repulsed. In accordance with that over-production, which is so characteristic of biological response, special lymphocytes and a great excess of antitoxins are produced. These enter the general system and lessen the risk of a successful bacterial infection at a more vulnerable part. Thus, more or less immunity against micro-organisms is acquired by the individual without his obviously getting the disease. On rare occasions the lymph nodule is overcome and the disease develops. But meanwhile the body has become better able to withstand a general invasion.

There is considerable evidence to support this hypothesis, and it can be divided into Clinical, Pathological and Biological sections.

Clinical—

The sub-epithelial glands bear the brunt of the attack in faucial and intestinal infections, such as scarlet fever, typhoid fever and infantile enteritis, in which the Peyer's patches become

swollen and infected. These glands are largest and most active in young children at an age when individuals are acquiring immunity from the various common infections.

They hypertrophy as a result of repeated infectious diseases.

It is often observed that a person may apparently secure immunity during scarlatinal epidemics by very mild tonsilitis, with no rash or other signs of general injury.

In fulminating infections, where septicæmia is early and fatal, the lymphatic reaction is poorly developed.

Pathological—

Paraffin sections of faucial tonsils repeatedly show bacteria passing through the covering epithelium and entering the lymph nodules.

Lymphocytes are formed in lymphatic glands. In faucial and intestinal infections these cells are increased in number in the blood.

Biological—

Organs like the tonsils and appendix are so often the seat of deadly diseases that their eradication from the race would soon be brought about had they not a protective action. The tonsils have a further function in that they play an important part in speech and song. They influence the surrounding muscles and modify the resonance of the voice. Adhesions and contractions, which sometimes follow their removal, often ruin the singing voice.

Having established the probability that the appendix and tonsils have a function, we must now consider to what extent their removal should be advocated. Their indiscriminate removal as practised by some surgeons is wholly to be deplored. There is sufficient evidence of their functional importance to justify their retention until it is certain that they are in a dangerous condition. The fact that no apparent harmful effects follow their removal is to be expected, if we accept the hypothesis put forward above. There is still lymphoid tissue in the cæcum which may be equal to the increased demands on it, especially if the operation is performed in an individual old enough to have secured immunity from the ordinary infectious diseases. But one wonders whether a few of the cases of coli bacilluria and cystitis are not due to previous disease or removal of the appendix.

The thymus, which can be removed without any apparent harmful result, may conveniently be considered here. Noel Paton in collaboration with several others performed a series of experiments on the effects of its incision on guinea pigs, and came to the following conclusions :—

(*a*) The removal of the thymus has no effect on the number or quality of the erythrocytes.

(*b*) Removal of the gland in young animals causes leucopenia, which persists until the animals have reached the age of three months. This is about the age of puberty.

(*c*) Removal of the gland even at birth has no effect on the growth of the animals. Thymusless animals, which become pregnant, show normal leucocytosis. Thymusless animals infected with tubercle show the same increase or altered proportion of leucocytes as is manifested by animals with the gland intact.

The resistance to toxins of staphylococci and streptococci is diminished by the removal of the thymus.

(*d*) Removal of the gland was not found to have any effect on the resistance to diphtheria toxin.

In further experiments it was found that the thymus apparently has some relation to the sex organs. In guinea pigs the thymus and testes both seem to exercise an influence on the growth of the sexually immature animal. After removal of one of these organs the other can compensate for its loss and, in so doing, may undergo rapid growth, or, in the case of the thymus, may persist for a longer period. In the female the same evidence of the influence of the thymus and ovaries was not observed, but the data were incomplete.

The sexual organs afford many instances of apparently useless structures. From the practical point of view, the most important of these is the prepuce, which has a very great historical and social interest, since its removal is usually associated with ceremonial and religious rites.

The earliest mention of the rite of circumcision is in Genesis xvii, when Abram changed his name to Abraham, and God made a covenant with him that he should be fruitful and multiply. The sign of this covenant was circumcision, the instructions in regard to it being very definite : "Every man child among you shall be circumcised, and ye shall be circumcised in the flesh of your foreskin."

There has been much controversy as to whether circumcision should be regarded as a precept of cleanliness or as a religious rite. It was at one time universal among the Egyptians, and, according to Herodotus, they practised it, "preferring cleanliness to decency." The text in Genesis, however, is very clear. It was to ensure fruitful coitus in order that the seed of Abraham

should multiply according to the covenant, a long foreskin being a hindrance to convenient coitus. The Jews must have regarded it as a religious rite, apart from the purpose of cleanliness, since "uncircumcised" was used as a term of contempt. Among the Mahommedans the rite is performed at about the thirteenth year. The Mahommedan Arabs profess origin to Ishmael, son of Abram, and the choice of the age for circumcision accords with the age at which he was circumcised. A boy is not allowed to pray in the mosque until he has gone through the ceremony.

Howitt made careful observations of tribal customs in South-East Australia. He found that circumcision is widely practised there as an initiation ceremony when boys are nearing the age of puberty. In one tribe the medicine man, who operates, swallows the prepuce with some water. In most cases it is cut off with a piece of sharpened quartz. Spencer and Gillen, in an account of the Northern tribes of Central Australia, came to the conclusion that the natives have no idea what the ceremonies mean. No one is allowed to have a wife until he has passed through them, and the women look with contempt upon those who have not done so. The ceremonies have no relation to procreation, since the natives are unaware that birth has any connection with sexual intercourse. They believe that it is the result of the entrance into the mother through the navel of an ancestral individual, which grows within her into the child.

From the foregoing facts it is evident that circumcision is practised almost universally. While it must be conceded that the dangers attending preservation of the foreskin are many, and in some cases may lead to serious conditions, its removal, on the other hand, not only disperses these dangers, with no subsequent deleterious effects, but also ensures cleanliness and convenient coitus. So circumcision, although surrounded by ritual and religious superstition, is a sound and healthy precaution.

In the female the most interesting organ, of those which are usually considered to be useless, is the hymen. Its interest lies in the fact that it is a recently acquired structure, being absent in all other animals, including the ape. On these grounds alone we should expect it to have a function. It serves a moral function as evidence of virginity, but its acquisition can hardly be attributed to this, especially in view of some of the ensuing facts.

In China the hymen is destroyed at an early age as the result of a rigorous toilet, and many Chinese doctors are unaware of its existence! In Kamchatka aborigines regard it as disgraceful to be married with the hymen intact, and mothers operate on their daughters for its removal. In the Philippines there were formerly well paid officials whose duty it was to destroy the virginity of girls in order to make sexual intercourse more pleasant for the husbands.

Metchnikoff suggests an ingenious hypothesis to explain the presence of such an apparently useless organ. In a former period of the existence of the human race sexual relations began at a very early age, before the male organs were mature. Under such circumstances the hymen would make coitus more satisfactory, being gradually dilated without being torn, until capable of admitting the adult male organ. In some countries even now marriage takes place under the age of 16, and in these cases of early intercourse the hymen is rarely found to be torn.

I do not profess to have considered all the apparently useless organs in the human body. There are many other examples, such as Darwin's tubercle of the ear and the os coccyx. There are also similar vestiges in the sexual organs, usually being homologues of useful organs in the opposite sex, and furnishing us with evidence of a former state of hermaphroditism. But these structures have little practical importance.

In conclusion, I wish to emphasise the fact that there is far too great a tendency to assume the uselessness of organs whose functions are unknown. No doubt this is greatly advantageous to the surgeons, since no objection is raised to the removal of these structures, following their slightest derangement. But, apart from the inadvisability of removing a probably useful organ, the status of the medical profession would be lowered in the eyes of the layman if one day he discovered that his long-lost appendix, stolen from him during a laparotomy, would, with the help of its consort the tonsil, have repulsed the bacterial attack now reducing him to an inanimate mass.

On the other hand, when the ductless glands, which had previously been thought useless, were found to possess important functions there was a great reaction in favour of the belief that there are no useless organs. This extreme view, although perhaps not so harmful, is equally as far from the truth as the other. It has still many adherents, but, in my opinion, is the expression of a pious faith rather than of unbiassed scientific observation.

Let us, therefore, admit the possibility of the presence of useless organs, but not condemn any specific organ until its case is proven.

Two New Books

A Text Book of Medicine. Edited by J. J. CONYBEARE, M.C., M.D., F.R.C.P. Published by E. & L. Livingstone, Ltd. *Price* 22*s.* 6*d.*

IN writing or editing a book covering so vast a subject as medicine, it is obvious that the author or editor is faced with certain difficulties which render his task virtually impossible unless he undertakes it in a spirit of humility with a limited objective. To cover the whole ground in such a manner as to be comprehensible to the average student, to maintain proportions, to be lucid and readable as well as accurate is certainly the ideal, but we should be exceedingly sorry to be presented with the awful volume or series of volumes which must inevitably result. No such thing has been attained, or probably could be attained under any circumstances. In fact, the trouble hitherto has been for the most part that too much has been attempted and in the outcome nothing really attained. The editor apologises for the production of his book on the ground of the quantity of others. On the score of their quality he has also need for humility. Most of them attempt to be exhaustive, and in the process are neither comprehensible, proportionate, lucid nor readable. If anything, he has failed to have the full courage of his convictions in ruthless exclusion of rarities which are of no serious interest to the student. This book is at least readable, for we have read it from cover to cover, a fact which is new to us and speaks for itself. Much of it is also unusually lucid and comprehensible and proportionate. In this respect we consider particularly good the sections on Pulmonary Tuberculosis by Dr. Marshall, on Syphilis by Mr. Lloyd and most of the nervous section by Dr. Walshe. Each of these represents condensation of an enormous subject, and none of them are dull or stodgy. Much the same may be said of the cardio-vascular section by the Editor and Dr. W. H. Craib and the intestinal section by the Editor : the rest of the book is for the most part not far behind. In the matter of proportion we suggest that from the student's point of view too much space is devoted to diabetes, for instance, while the pathology of erysipelas, which is highly distinctive and instructive, passes without comment of any kind. In fact, we doubt whether the book would not gain much in value from the inclusion in many places of the essentials of pathology where they constitute the rational basis of both diagnosis and treatment. We would also put in a plea for a little more consideration of physical signs to the exclusion of uninstructive rarities, of treatment which is necessarily institutional and of laboratory methods. The last are usually omitted, and the omission might be made absolute with advantage. At all events, the test meal chart on page 563 lacks any adequate explanation either in connection with the figure or in the text, except a purely misleading one. This brings us to the very fundamental question of accuracy. There are a fair number of statements which are likely to disappear in later editions, but probably not an undue number considering the difficulties of the subject. The major ones are admittedly controversial, and no useful purpose would be served by arguing them individually. The minor ones include obvious slips, such as a right-sided spleen on page 350, which will be transposed, no doubt, in the next edition. The smallest ones consist of some 25 errors of the misprint variety, and probably some which have escaped our notice. It would not be possible to apportion the blame exactly as between printer and author, and, in any case, the number is not unduly large. Finally, the book is pleasant to look upon, is printed so as to make easy reading—a surprisingly rare thing—the paper is good and, although we are not competent to criticise the binding, we have subjected it to experimental test and it does not come off as a result of a single heavy fall.

J. R. B. H.

Essentials of Medical Diagnosis. By Sir THOMAS HORDER, K.C.V.O., M.D., F.R.C.P., and A. E. GOW, M.D., F.R.C.P. Published by Messrs. Cassell. *Price* 15*s.*

THIS book is designed to give as concisely as possible all relevant facts which will help the student in the art of diagnosis. Considering the colossal aim of the authors, the attempt is fairly achieved. A brief account of the anatomy and the physiology of each system is given at the commencement of the various sections.

The nervous system is chosen as the first section. Perhaps it is right to insist on using every confirmation possible to clinch a diagnosis, but many a clinician would not consider " the diagnosis of G.P.I. must not be made in the absence of pupil changes nor until a positive Wassermann and the paretic curve to the colloidal gold reaction have been demonstrated in the cerebro-spinal fluid " (p. 140), nor that " the diagnosis of uræmic coma should not be made unless the urea in the cerebro spinal fluid (and blood) exceed 200 mg. per 100 c.c. " (p. 133). Spontaneous sub-arachnoid hæmorrhage, due to a congenital aneurism, is not mentioned unless it is masquerading as " essential hæmorrhage " (p. 154).

The section on the cardio-vascular system is exceedingly well written, although it is surprising that a preference is given for stating the position of the apex beat in relation to the nipple line rather than to the mid-sternal line (p. 183). The respiratory system is equally well handled. In view of the recent advances in bronchoscopy, it is hoped that the student will not think that vomiting is still therapeutically induced to clear the respiratory tract of a foreign body (p. 273). We do not agree that material whereby to establish the nature of the disease—*i.e.*, pulmonary tuberculosis—is readily forthcoming by the time most phthisical patients present themselves for diagnosis (p. 281).

The digestive system, which follows, is very sound. A good account of acute pancreatitis includes no mention of ecchymoses in the back nor of glycosuria, both of which sometimes help in making the diagnosis a little more than guesswork (p. 404). It is welcome to read that the gastroscope is whole-heartedly condemned as being quite unsuitable to the British temperament. There is nothing to criticise in the kidney section except it is difficult to believe that even the experienced eye could appreciate a characteristic "smokiness," due to blood which fails to give the guaiac or spectroscopic test. However, microscopy is regarded as final.

The sections on blood-forming organs, joints and the ductless glands are well written. The skin section is far from exhaustive, but it is questionable if ever much improvement in diagnosing skin lesions will be made from reading alone. The final section of pyrexia is admirably concise. Not the least valuable part is an appendix with the normal figures given for the various tests used in clinical investigation.

The book is packed with facts, and often it is difficult to decide what is and what is not important. From what has gone before, it is obvious what very few statements are questionable. The average student will find it useful, especially for reference, provided he avails himself of as much bedside teaching and observation as possible.

R. E. S.

Correspondence

A Residential Bouquet

To the Editor of the GAZETTE

SIR,—May I say how very much I enjoyed the Residents' Play? Both in conception and execution it was the best Residents' Play I have seen. It did not contain a dull moment. The first two acts were brilliant and caused me as much pleasure and amusement as any first two acts I have ever seen in any theatre.

My appreciation is shared by everyone I have met who saw the play.

Yours, etc.,

C. P. BLACKER.

Maudsley Hospital,
Denmark Hill, S.E.5.

A General Brickbat

To the Editor of the GAZETTE

SIR,—Once upon a time I was a nurse at Guy's. Since then, in the course of years, I have had many patients through my hands. I have dosed them, washed them, given them injections, wakened them from sleep for treatments as I was ordered to do—all this with no qualms of conscience as to the efficacy of my doings.

Of late years it has often been my fate to be a patient, both medical and surgical, and my point of view has been broadened.

Never again—Heaven helping me!—shall I adopt that superior attitude of the fit towards the unfit; that attitude which regards those unfortunates—and especially the chronics—not only as uninteresting creatures, but actually as being slightly mentally deranged. If a human being exists who actually *wants* to be ill and in pain, then he or she certainly is mental, and should be handed over to the psycho-analyst. Otherwise, the fault lies entirely with the doctor in failure to diagnose the trouble—and certainly not with the patient.

Never again shall I unthinkingly pour down the throat of the patient doses of aspirin, strychnine, castor oil and opium as recommended by the British Pharmacopœia.

People are not all built to react to physic in a similar way, and "what is one man's meat is another man's poison," as I have proved by my own suffering.

Never again shall I tear the bed clothes off the patient and wash the shivering wretch from top to toe. It is a miserable—and often dangerous—proceeding, and especially shall I not again waken a patient from sleep for any treatment whatever. In this age of fuss and worry the medical profession has apparently forgotten that God's good sleep is a panacea worth far more than any treatment invented by human brains.

All the same, nurses have been good to me. As to the doctors, I have found them to be, both male and female, well-meaning people; those among them who have themselves suffered illness

have been the most sensible. In my opinion, the chief failing of doctors and surgeons is that they are apt to be extremists. One can only advise serums for all ills. Another must remove the appendix as a cure-all. One announces to the trembling patient that she can only live for a few months, while the next says, "Take a little rhubarb and soda, there is nothing whatever the matter with you." Both diagnoses are depressing and make the patient feel no better, especially when she has to pay five guineas for the interview. It is no wonder that people flock to the quacks, Nature-cure doctors and such, for they, at least, do really pay attention to chronic cases and attempt —however foolishly—to give curative and preventive treatment.

However, I have survived the dosage of the doctors, the knives of the surgeons and the noise of the night nurses, and, may I add, for the encouragement of any who may feel damped by reading this, none of my doctors or surgeons were Guy's men, and a Guy's nurse who once nursed me did not wear heels when on night duty.

Yours, etc.,
K. J. C.

The Cowdray Club,
28, Cavendish Square, W.1.

[We are duly encouraged.—ED.]

The Biennial Dinner

To the Editor of the GAZETTE

SIR,—At a meeting of the Staff, held on January 25th, it was decided to hold the Biennial Dinner at the Connaught Rooms on Friday, October 18th, 1929. I am pleased to announce that Sir Maurice Craig will be in the Chair.

Yours, etc.,
E. C. HUGHES,
Hon. Secretary.

17, Wimpole Street, W.1.

The Residents' Play—Thanks!

To the Editor of the GAZETTE

SIR,—May I use your columns to express to the many people who helped to make the Play possible this year the thanks and appreciation of the Residents. It would make this letter extremely unwelcome to you were I to name all those who did anything to help, but I should particularly like to name Mr. Saltmarsh and the Works Department, Miss Shepherd, the Sisters who lent various properties from their wards, and the Registrars and others who carried on the work while the Residents were performing.

Yours, etc.,
O. PLOWRIGHT,
President of the Residents,

The College, *Nov.* 1928–*Feb.* 1929.
Guy's Hospital, London, S.E.1.

Guy's Hospital Musical Society

THE Annual General Meeting of the Musical Society took place in the Physiological Theatre on Tuesday, January 22nd, when Dr. Fawcett took the Chair. The following Officers were elected for the coming year:—

Patron—Sir Henry Cosmo Bonsor, Bart.
President—John Fawcett, Esq., M.D., F.R.C.P.
Vice-Presidents—
The Matron.
H. L. Eason, Esq., C.B., C.M.G., M.S.
W. M. Mollison, Esq., F.R.C.S.
W. H. Trethowan, Esq., F.R.C.S.
E. C. Hughes, Esq., F.R.C.S.
J. Lewin Payne, Esq., L.D.S., M.R.C.S.
Honorary Treasurer—W. M. Mollison, Esq., F.R.C.S.
Honorary Secretaries—
C. G. Ellis, Esq.
G. A. R. Winston, Esq.
Honorary Librarian—A. Weston, Esq.
Students' Choral Representative—N. L. Barber, Esq.
Students' Orchestral Representative—Dr. Robinson.
Sisters' Orchestral Representative—Sister Johnson.
Sisters' Choral and Nurses' Choral Representatives—
Not yet elected.

Dr. Fawcett, in addressing the meeting, sincerely thanked the Society for again electing him President, as it was the only Society with which he was connected as President, and he was very glad to be able to accept, although he felt that the office should be more freely distributed. He went on to congratulate the Society on their performance during the past year, and wished the Society a very successful year.

In reply Mr. Chamberlain asked the meeting to accord a very hearty vote of thanks to Dr. Fawcett for having taken the Chair, and also for accepting the office of President for the coming year. He was sure that the Society could not have too much of Dr. Fawcett.

It has been decided to give four performances of Gilbert and Sullivan's comic opera *H.M.S. Pinafore* at the Guildhall School of Music on November 5th, 6th, 7th and 8th next, and rehearsals commenced on Monday, February 11th, in the Probationary Room of the Dental School.

Sport and Hospital Information held over to next issue. [EDS. { O. P. / E. T. C.

GUY'S HOSPITAL GAZETTE

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PASSIM

MEDICINE is still entrusted to the clinical teacher rather than to the writer of books. In this there is wisdom, for even now most of us are influenced far more by what we hear than by what we read. As children we were frank imitators of things heard, and spent our first conscious moments at the game.

Success was easy and gained applause that stimulated. Our efforts became more and more complex. At length we were deluded into individuality.

As children in the more exacting medical nursery of a general hospital, imitation, no longer a game, becomes a serious difficult business, and if, finally, we emerge into complete clinical individuality it is not without a deep sense of gratitude to those on whom we have modelled our methods and from whom we have been fortunate enough to build up our knowledge.

To one generation of Guy's men at least, Dr. Newton Pitt must stand in the teacher's almost parental relationship, and both to these and the great number of his former clerks and housemen regret at his passing will mean a very real thing indeed.

To those of the present time, as Senior Consulting Physician, he was an occasional welcome visitor to the meetings of the Physical Society, and beyond that a man famous both for his achievements and the tradition of his untiring energy—a great example to all and a great loss.

We are indebted to Dr. Fawcett for the sympathetic account of Dr. Pitt's life and work that is to be found in the following pages.

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IT is exceedingly pleasant to look back upon the names of those that have served on the Staff at Guy's, names illustrious by right of the work connected with them, names famous for their family descent, names that conjure up the memory of certain tricks of manner or certain peculiarities of diction, or names that bring back with them the sense of popularity and human kindness. Each one forms its link in the chain of men that is the history of Guy's. But it is in the forging of the link, the transition from a "Guy's man" to an "old Guy's man" that lies the effort. For great as the break must certainly be to those leaving Guy's after long service, equally hard is it for those still remaining to watch the departure of one who, in one way or another, has filled a place which no one else could fill.

These truths are brought home to us by the retirement, at the end of last month, of Dr. Herbert French. Dr. French, still comparatively a young man, has retired at an unusually early age. From his own point of view we feel that he was right in doing this. He now has time and health before him in which to do all those things which a busy consultant has not time to do earlier in his career. But from our point of view—and we are sure we voice the opinion of all those at Guy's—we feel very loth to see him go. Dr. French was Senior Physician for too short a time to carve himself a name in that particular niche, but it is for the man himself that we shall always remember him. His generosity, his cheerfulness, his unfailing kindness and thoughtfulness to all those connected with him at Guy's, whether house physician, clinical or clerk on his firm, have endeared him to a great many people by whom he will be sadly missed.

It was characteristic of him that he wished to depart quietly without fuss, and without even the final "official" round, which it has been the custom for retiring members of the Staff to hold.

We wish him every good fortune and prosperity in the time he still has before him, in which to enjoy the fruits of hard and valuable work and an extremely active career.

It is with some dismay that we read of the approaching attempt to sever completely preventive from curative medicine. For the Minister of Health, in Clause 53 of the Local Government Bill, is asking for power to abolish the part-time Medical Officer of Health and so draw a strict dividing line between administrative and private practice. At present about two-thirds of all medical officers are general practitioners, so that the interpretation of preventive and curative medicine with all the obvious advantages, both to the public at large and the practitioner himself, is safely assured. We simply cannot see the point of cutting down the existing powers in *public* health of men who have the care of the *private* health of the nation.

Surely the country practitioner who knows so thoroughly the lives, the mentality, the condition and the health of the people about him is far better fitted to cope with the public health administration of the district in which his patients live than a Government official whose office is especially created by another Government official, and who has no power of action and no knowledge of the people for whom he works except what is granted to him by Government officialdom. We sincerely hope nothing will come of this attempt to curtail the useful powers of the general medical practitioner without possible advantage to anybody.

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Those in the habit of taking an occasional intellectual tonic will welcome the fifth Fison Memorial Lecture, which is to be given by Sir John Marriot, M.A., M.P., in the Medical School at 5 p.m. on Thursday, March 14th. The subject is "The Philosophical Conception of the State," and seats may be obtained on application at the Medical School Office.

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We are asked to state that the Inter-Hospitals' Boxing Competition is to take place at the National Sporting Club on March 20th. Particulars as to the means of obtaining seats will shortly be available. We are also requested to exhort members of the team to commence serious training. Accordingly, we have decided to prepare a supply of literary back-handers for liberal distribution among the said members if the sounds emerging from the Pavy Gym. during the next few weeks do not meet with the editorial approval.

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We are privileged to announce the inauguration of a series of dances in aid of the Royal Medical Benevolent Fund. Guy's members of the Guild have promised to organise the first dance, which is to be held on Thursday, May 16th, in the hall of the new British Medical Association Building in Tavistock Square. The floor of this fine hall, which has been lent for the occasion, will easily accommodate 500 dancers, and the organisers look to this Hospital to lead the way by making the affair an enormous success. Tickets—price 6*s.* single or 11*s.* double—may be had from Mrs. Hale-White, 1, Portland Mansions, W.1, Miss V. S. Fripp, 19, Portland Place, W.1 or from Mr. J. H. E. Winston at the Medical School Office.

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Obituary.

G. NEWTON PITT, M.D., F.R.C.P.

Dr. NEWTON PITT was one of the three Physicians appointed on the Staff of Guy's in 1887 to fill the vacancies resulting from the rapid promotion among the junior members which ensued, in the main, as a sequence of the appalling series of disasters which befel the medical staff from the year 1883 to 1887; I mean the deaths of those famous physicians, Fagge, Moxon, Mahomed and Carrington. Dr. Leonard Woodridge and Dr. Cooper Perry, as he then was, were the other two physicians appointed at the same time, and before two years were out Guy's had lost that brilliant genius Wooldridge, to be followed but a few years later by the deaths of Dr. Washbourn and then Dr. J. H. Bryant. Dr. Pitt came to Guy's with a great reputation from where he had taken high rank as a wrangler, and, later, was elected a Fellow of his College, Clare. Throughout his period of service on the active staff of Guy's, which ended in 1913, he entered heart and soul into all the activities of both the Hospital and its School.

Perhaps the features which we, as students, remember best were, first, his superabundant energy, the almost meticulous thoroughness with which he investigated the cases under his care, especially those in relation to the central nervous system, in which he was particularly interested, and where he did such good pioneer work. His brain to us seemed teeming with so many facts, with time as the sole brake to the expression of what he could do and say, and where we learned,

meanwhile, of many things of which we had not even dreamt before. Fatigue was altogether foreign to his mind and nature, although by no means so to the somewhat exhausted members of his "firm," male and female, who followed in his train, at the end of a long round. Some years later, when no longer a student, I ventured to ask him is he was ever tired, and he replied, "I don't remember it," and I believe he spoke the truth. But some few days ago I met him in the "Tube" on his way to the Alliance Assurance Company, where he had been one of the medical

By courtesy of Elliott & Fry, Ltd.

officers for a great number of years, and he looked as well, almost as young, and spoke as robustly as ever. The only complaint he had to make was that someone had advised him recently to have all, or most of his teeth extracted, with the result that he had been uncomfortable ever since, and that was all he had to say in reference to the present state of his health. It seems impossible to realise that he is gone, and that we, and all who knew him so well at Guy's and elsewhere, have lost a very dear friend.

The other chief characteristics to my mind, and, indeed, to that of others also, were his geniality, his good humour, his love for his fellow man, particularly if he came from Guy's, and his wish to do something for him if he could. He was such a gentleman. As students we always spoke of him as "dear old Pitt"; irreverent it was, but the phrase seems to enshrine his memory, and to describe with truth the affectionate regard in which he was held by all the students, by his own House-Physicians, and by his colleagues on the Staff—and what can man want more! When the war came, though over 60 years of age, Pitt worked devotedly from first to last at the 2nd London General Hospital, where he held the rank of major; and also, if I recollect aright, he acted as Physician of another War Hospital, King George's, as it was called.

Outside Guy's, the work for which he will, and should ever be remembered is that which he did for the Royal Medical Benevolent Fund. Sir Charters Symonds recalls in *The Times* (February 26th) how that Pitt became Secretary of the Fund in 1914, and that to Pitt fell a large part of the additional work entailed in the collection, the management and the distribution of the £20,000 collected from the medical profession, with the added £10,000 from the National Relief Fund. The money was to assist financially the medical officers, especially of the Territorial Army, who had suffered loss either themselves, or, it might be, their families, from whom the bread winner had been taken or who had died. Ever since Pitt became Secretary the interests of the Fund were his constant care, and, while anxious to see it develop on a wider and more broadly comprehensive basis, yet he never failed to devote daily consideration to the numerous cases which came for relief. To those who might wish to do something to perpetuate their affection for Dr. Pitt I can imagine nothing which would have more appealed to him than an attempt to render this Fund even more generally recognised in our profession than it is at present, to have it regarded as a liability which every medical man should incur by becoming an annual subscriber. Dr. Pitt was ever grateful for the support accorded to the Fund, increasingly so of recent years, by the members of the British Medical Association.

This brief sketch, written at such short notice, does but meagrely fulfil its aim, but it may perchance serve in part, though inadequately, to express the feelings and thoughts of some who knew Pitt well, and who realise to the full how rich was his life for others, and therefore so happy for himself. He loved his life and his work, and, sad as we are to lose him, yet we recognise that, not only did he play the game hard throughout his long life, but that he put many a good innings to the credit of his side.

JOHN FAWCETT.

JOHN BOURNE BERRY, M.R.C.S. L.S.A., Lt.-Col. R.A.M.C.T.

IT will be a shock to many old Guy's men, who held him in affectionate regard, to learn that Lieut.-Col. Berry passed away peacefully in his sleep on January 20th, at his home at Ryde, aged 71.

He had been failing for two or three years, and for some months had had symptoms of angina pectoris.

"Jack" Berry, as he was always called, entered at Guy's October 1st, 1878, at the same time as Dunn and Targett, who became members of the Staff. Having been for a time in the City, he was older than most of his contemporaries, and further off from school and examination days: he found it difficult to begin again and did not shine in class lists or take prizes, but he worked hard and steadily and passed all his examinations with credit and in due time. He did his usual appointments, but did not get the higher ones, so he went to the Royal Free Hospital as House Physician, which he found a most valuable experience.

He took an active part in athletics, but was keen on Volunteering and an ardent member of the London Rifle Brigade. This was to be expected, as he was the son of Captain Berry, R.E., and had been brought up amongst soldiers here and in India.

Socially, he was one of the most popular men of his time, and his tall, soldierly figure, handsome features and pleasant genial manners attracted all, and he never made an enemy.

After a few years in a country practice in Lincolnshire he settled in Ramsgate about 1890, and was successful, popular and respected.

He specialised in electrical and X-ray work, at which he became very proficient.

Owing to cataract he had to give up work in 1913 and retired to Buckinghamshire, where he built a house and enjoyed making a garden, for, after an operation, he obtained good sight in one eye.

Whilst at Ramsgate he held a commission as Surgeon-Major in the Cinque Ports Artillery Territorials and in 1915 he rejoined and was stationed at Margate and served there during the time that the place was bombed almost nightly.

Later he was moved to Fort Pitt, Chatham, as X-ray specialist and promoted Lieut.-Colonel. Whilst there he developed acute glaucoma in the eye which had been operated on for cataract, a very rare occurrence. He was trephined by Mr. Eason, who had previously done the cataract, and regained quite good sight and continued his work till well on in 1919, when he was demobilised—a fine record for a man with such damaged sight. He then settled at Brook House, near Ryde. He married, in 1885, Jeanie, daughter of Henry Darley, Esq., of Hampstead. They had one daughter, who is married to Colonel Chetwynd Haswell, D.S.O., O.C. R.E., at Peshawar, who has charge of all the passes on the Afghan Frontier.

Guy's has turned out many men who have had a more distinguished career, but none who were more loved and respected, and deservedly so, for humility and charity, in its widest sense, were the most striking features of his character. He could not do a dishonourable action or think a mean thought. R.I.P.

H. P. J.

Osteomyelitis

A Lecture by C. H. Fagge, Esq., M.Ch., at Guy's Hospital, January 31st, 1929

GENTLEMEN,—The subject of my remarks is a boy aged 14, admitted into Lazarus on October 4th last, with pain in the right leg. From the House Surgeon's notes we learn that on September 29th he was kicked on the right knee when playing football. On the night of this injury he had a rigor, his knee was stiff next day and his temperature was 102°. His temperature remained up, and the local condition was unaltered on admission, when, it is noted, there was tenderness over the upper and outer edge of the right tibia, and the movements of the knee were limited. The temperature was 103°, and the pulse 100.

I think it is just as important to realise what *is* said in those notes as what is *not* said. The right tibia was explored and in the cancellous bone of the metaphysis there was found some opaque fluid, about which there was some difference of opinion as to whether it was pus or marrow. The abscess was exposed by gauging away the compact bone and cancellous tissue, until the cancellous tissue appeared to be healthy. The wound was packed with gauze wrung out in paraffin, and the boy put back to bed, where he remained decidedly ill for a few days. He was obviously suffering from an acute infective process. Though his blood culture was negative, it was reported that the opaque

material from the tibia contained pus cells in large quantities and gave a pure culture of staphylococcus aureus. He was readmitted in December—within two months of the original illness—because he had got a recurrence of infection around the original focus in the tibia, and he only went out of the ward last week.

It is interesting to note that his secondary infection was a very mild thing, constitutionally, compared with the first. Though he has had a red, local, brawny swelling over the front of his leg on December 16th, the pulse, temperature and respiration were normal. The abscess was opened and some more bone was cut away, so as to make it a cavity which would drain satisfactorily.

If, as a student, I had been asked to write an answer to any question in surgery there is none, I conceive, that I would not rather have been asked than on acute bone infection. I think our difficulty was that so many terms were used, confusing, so to speak, our mental picture and suggesting that inflammation in bone is different to any other inflammation in the body. There is nothing specific about bone inflammation except that as the inflammation occurs in a rigid tissue the immediate effects perhaps are more marked, and the ultimate interference with the vitality of the bone itself is more drastic. One should picture this disease, acute osteomyelitis, as an acute local—one could scarcely use a better term—inflammation. One should realise that if it is at all extreme only one result locally can occur, and that is death of the bone. and death of the bone, owing to the rigidity of the tissues in which the inflammation exists, is an extremely rapid process. So that there is virtue in the term used many years ago—acute necrosis.

If you pass round this Museum, or if you could be confronted with a specimen of this nature at the R.C.S. Museum, you will view the condition not as you see it in the living subject, but as you would have seen it in a dead subject perhaps 10, 20 or 50 years ago. I admit that the specimens I have brought down to illustrate the disease do not illustrate the disease as I want you to realise it clinically.

At the moment I will, for educational purposes, discuss osteomyelitis from a broad point of view. In his book on *The Inflammatory and Toxic Diseases of Bone*, Lawford Knaggs tabulates the causes of acute osteomyelitis in this way : Table I

To-day I am talking only about "*f*," acute osteomyelitis of the young, but I cannot help drawing your attention just briefly to one or two points in connection with this table. There are two ways in which acute osteomyelitis may be set up, and of these infection by the blood-stream is infinitely the most important and the most common. One should realise, however, that it may arise by direct extension, as from the surface in compound fractures, or from extension from other tissues, of which perhaps the most common is osteomyelitis secondary to a chronic ulcer of the skin. Yet however it may arise, it presents clinically no difference from infection by the blood stream.

The pathology of osteomyelitis in a septic amputation stump is well shown in this specimen, in which you see below a sawn flat surface, and immediately above it dead white bone. Above this is an irregular coating of new bone formed from infected periosteum, which new bone forms a line of demarcation at its own expense above the dead tissue. Just as in gangrene, to which this

Acute osteomyelitis	Infection by direct extension	(*a*) Septic Amputations
		(*b*) Septic Compound Fractures
		(*c*) Alveolar Abscess
		(*d*) Cancrum Oris
		(*e*) Ulcers—simple, specific or malignant, etc.
	Infection by the blood-stream	(*f*) Acute Osteomyelitis of the Young—(1) Diaphysitis, (2) Epiphysitis, (3) of the small cancellous bones
		(*g*) Acute Osteomyelitis in Adults
		(*h*) Brodie's Abscess
		(*i*) Typhoid Osteomyelitis
		(*j*) Pneumococcal Osteomyelitis

TABLE I

Yet I would like you to foresee the clinical picture of the future for yourselves—that acute osteomyelitis is a process which need not necessarily end in any bone death at all. It is perhaps a pity that you can only study acute osteomyelitis as a disease from the museum point of view.

process is exactly similar, the white dead piece or sequestrum is separated by ulceration occurring at the expense of living tissue. There are, at the Royal College of Surgeons, several specimens of the tibia and fibia cut across, showing dead white bone at the periphery, above which is a line of

separation. The sequestrum, which tapers from the bottom, where it is exposed, lying in a bed of pus on the surface of the amputation stump, comprises the whole thickness of the bone, but, higher up, it tapers to a point because the infective process spreads more easily along the medullary cavity with its delicate and rather soft cancellous tissue than into the harder bone. In this way coronal sequestra arise ; they were exceedingly common in amputation stumps in pre-Listerian days. You should realise that they are likely to be met with in examinations, because the museums from which these examinations are conducted are generally stocked with material 50 or 100 years old.

Class *e*—necrosis due to ulceration from the surface—is interesting because it shows how in a simple septic ulcer the periosteal blood supply may be cut off and necrosis will occur. When this does happen the necrosis which results is always a thin wafer-like superficial stratum of bone, and nothing like the dense, thick sequestrum which results from acute hæmatogenous osteomyelitis, in which not only the periosteal, but also the medullary blood supply, is absolutely, almost in a moment, cut off.

Here is another variety of osteomyelitis which has ended in necrosis, in which it is essential that a secondary infection should take place from the surface—that which results from gummatous infection.

There is no acute surgical condition which, to my mind, is more interesting, presents more pitfalls in diagnosis, has a greater depreciatory influence upon the working capacity of the individual, or is of more importance to him throughout his young adult life than acute osteomyelitis. I pointed out, in the case we are discussing, that staphylococcus aureus was its cause, and Fraser says in his *Surgery of Childhood* that out of 200 cases which he mentions, 60 per cent. were due to the staphylococcus aureus. This is, of course, a high proportion, but, I should have thought, from what I have seen in the last 30 years, that the proportion is even higher ; I should have thought that almost all our cases are due to the staphylococcus aureus. He gives about 25 per cent. as due to the pneumococcus. While I have met with pneumococcal osteomyelitis, the pneumococcus has not, in my experience, occurred in the more acute variety of this disease.

The boy we are talking of is 14 years of age. Acute osteomyelitis is a disease of from 5 to 15. It is perhaps more common between 6 and 10, and extraordinarily more common in boys than girls. Acute osteomyelitis may infect any bone which has cancellous tissue in it. That means it may infect any bone in the body. So that while you cannot be perfectly certain that you may not meet with acute osteomyelitis of some portion of the calvarium—or, perhaps, its most obscure and difficult position, which is the spine—as a fact you have usually got to deal with one of the long bones. In the order of frequency the lower end of the femur, the upper or lower end of the tibia and the upper end of the humerus are positions in which the disease is likely to occur. In this relation I would like to point out that the more central the bone involved the more serious seems to be the prognosis. For instance, acute osteomyelitis occurring in the ilium seems to be most malignant, perhaps because it is more difficult to diagnose : perhaps all doctors do not realise that acute osteomyelitis does affect the ilium.

In a long bone the site of infection is in the cancellous tissue immediately under the epiphyseal line. To this region of the bone a variety of names has been given, of which perhaps the most satisfactory is metaphysis.

In the affairs of this life—whether medical or ordinary daily experiences—if we note a fact we immediately try and invent an explanation which, in 99 per cent. of cases, is no more an explanation than any other statement which could be made. We know that this acute staphylococcal infection is likely to occur in the cancellous bone or the juxta-epiphyseal region, and because we know this we try and say why, and a variety of reasons are given for it. It has been pointed out that in any long bone the nutrient artery passes into cancellous tissue somewhere near the middle, and gives off branches which diverge towards its two extremities ; when these reach the region of the epiphyseal line they form a network, in which each vessel makes a " hair pin bend " and, passing near to the epiphyseal line, turns backwards to go towards the centre of the bone again. It was argued by Lexer, who wrote largely on the importance of these vessels and their relation to osteomyelitis, that because of the vascularity of the tissue and the abundance of these vessels and their physical characteristic in turning backwards in the metaphysis, that this was an exceedingly likely spot for organisms to be held up.

But could it not be argued with equal cogency that this extreme vascularity provides a most satisfactory protection from bacterial invasion because there is in these vessels a large number of leucocytes which can kill those bacteria with ease ; it seems to me that these facts can be used as an argument in an exactly contrary sense.

I find myself in a greater difficulty in regard to the next factor, which is constantly introduced

by nearly all teachers and writers—the influence of injury. As pointed out by Mr. Knaggs at some length, the influence of a strain, an injury, what you are so fond of calling a trauma, is not borne exactly by the growing cartilage of the epiphyseal line; if any injury should determine the separation along that line the separation takes place not along the epiphyseal cartilage, but immediately below it, in the cancellous growing bone.

This is shown in this specimen, in which the separation of the epiphysis has taken place as a result of the disease we are now discussing. I think you will agree it has taken place not in the epiphyseal line, but in the cancellous bone immediately proximal to the cartilage. In discussing the influence of epiphyseal strain in the causation of osteomyelitis, Mr. Knaggs, taking the epiphyses in relation to the knee-joint, as examples, points out that the sum total of the forces which affect the bones involved would be exercised upon the cancellous bone immediately under the epiphyseal line, and so such an injury which would result in epiphyseal strain. I know perfectly well that among the factors usually deduced to account for acute osteomyelitis, none is so popular as an injury. I must admit, with regard to the patient who is the subject of our text, that four days before admission he was kicked on the knee, but, I submit, there was not the slightest evidence that he was kicked on the spot where his acute osteomyelitis occurred. In fact, in the majority of cases I urge that it is physically impossible for most patients to be kicked on the spot or to be injured at the spot where acute osteomyelitis occurs. And if I am to be convinced that injury is a factor in this condition, there must be some evidence of injury to the surface over the diseased bone, which would manifest itself in the subcutaneous and cutaneous tissues.

But the chief difficulty I have in believing that injury has anything to do with acute osteomyelitis is this—I cannot understand how a mild injury can produce acute osteomyelitis and a greater injury which fractures the bone never produces it. These children are regarded as suffering from a general septicæmia in which osteomyelitis is a mere local manifestation, but they are clearly not the only children who are septicæmic. I think a realisation of the frequency of general infection is well expressed by Fraser in his *Surgery of Childhood* when he writes: "We probably do not appreciate how common blood infections are in childhood. At birth the infant is, practically speaking, aseptic, but as age increases it necessarily comes into contact with many sources of contamination, and until an acquired immunity has developed it must run considerable risk of blood infection." You and I, as men, are now exempt from such infection because we have acquired such immunity. As I was just saying, it is difficult for me to believe in the influence of injury as a factor, because a great injury producing a fracture never produces osteomyelitis, whereas we are asked to suppose a less injury may.

Some speakers at a recent discussion on acute osteomyelitis pointed out that there has been a general tendency to overlook the general septicæmia and to regard the local disease as all-important. From the practical aspect I fear that lately the tendency has been in the reverse direction—rather to ignore the local disease and to regard the general infection as the dominant factor.

It is suggested by some that just as in bacteriological treatment, when a patient suffers from a general septicæmia, it is sometimes the custom to introduce a local irritant into some part of the body to produce what is known as a fixation abscess, so injury to a bone determines migration of organisms to that very spot, and a fixation abscess is produced. It is perhaps a natural corollary of this belief to suppose that a local abscess in the bone cannot do a great deal of harm. However, one knows from a clinical point of view that it is quite certain that unless the local bone infection is dealt with the patient will get a re-infection of his general circulation, and will die of a general blood infection, which manifests itself by abscesses in different parts of the body.

I have already said that 60 per cent. of these acute osteomyelitis cases are due to the staphylococcus aureus. In the minds of some it is held that the infection is most common in children who have got, or recently had, some cutaneous disorder of a staphylococcal nature, or who have recently suffered from one of the exanthemata by which they possibly obtained the infecting organism, or owing to which their resistance was lowered. It is not my experience that a history of such previous infection is common.

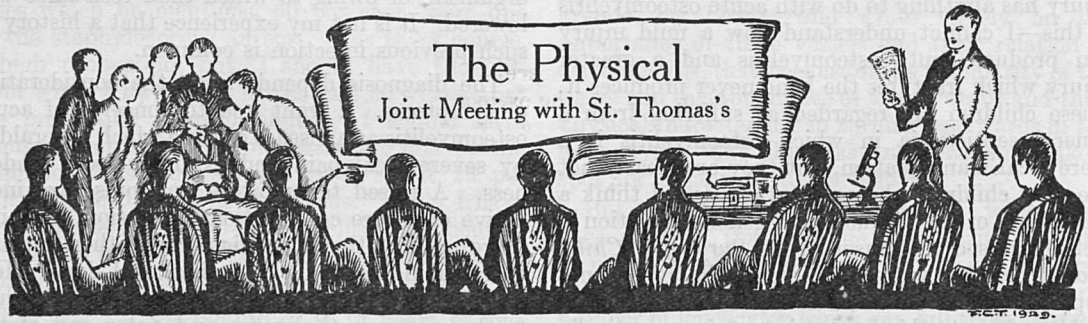
The diagnosis depends upon the consideration of symptoms. I want you to conceive of acute osteomyelitis as a disease of bone which is heralded by severe local pain and exquisite local tenderness. A raised temperature and pulse are indicative of severe constitutional infection. I think there are no other local signs, or, rather, I think there should never be any other local signs. Here is this boy that we took for our text: he had tenderness over the upper and outer end of the right tibia, and some limitation of movement of the knee. If you read surgery books of the present day you will find widely various descriptions of the physical signs and symptoms of acute osteo-

myelitis. You will read of an ill child with local pain and extreme local tenderness. This is my conception of the disease, and it is exactly the conception of the disease you get from Fraser's *Surgery of Childhood*. The last of the books I have read on the question is a book that came to me three days ago, and I cannot help thinking that my conception of acute osteomyelitis and that of the author are different, because he says there will be a red brawny swelling of the limb. A similar sort of description is what you find in another recent *Surgery*. I quite admit that these are cases of acute osteomyelitis, but to describe acute osteomyelitis as diagnosed only when there is a red brawny swelling of the limb is to describe acute appendicitis now as we should have diagnosed it 35 years ago when I was a dresser.

I remember one patient who for many years was under my care with chronic osteomyelitis of the tibia. His description of his original illness was that his leg became extremely swollen and that then he lost consciousness. When he woke up again his leg was discharging from several sinuses; it is clear that he had a very mild infection, for the septicæmia did not kill him. This is not a typical description of acute osteomyelitis as I conceive it. If, as one should, youdiagnose acute osteomyelitis before the infection has reached the periosteum, there will be no evidence of what some regard as typical of the disease, a sub-periosteal abscess, or of any spread to the subcutaneous tissues. To expect these signs is exactly similar to the conception of a clinical picture of appendicitis as a fluctuating swelling above the right Poupart's ligament. Unless there is some degree of infection of the subcutaneous tissues here there will be no change in the skin, there will be no swelling in the ordinary sense of the word; and, as a fact, when swelling does occur, in my udgment, it is usually rather a white swelling, for the exudation into the subcutaneous tissues renders them bloodless, and so the part is pale.

The differential diagnosis is extraordinarily interesting. You may be impressed by the extreme toxæmia of the patient, and your diagnostic vision roams from typhoid fever on the one hand, perhaps, to acute encephalitis on the other. If the local manifestations are marked, as may occur in a case in which the general infection is comparatively mild, you may have difficulty in diagnosis from cellulitis, an infection of the subcutaneous tissues, or even of the skin in the form of erysipelas. But of all the classical differences that exist the most important, perhaps, is acute rheumatism. It must be pointed out that acute monarticular rheumatism in children is very rare, and that in acute rheumatism the disease is limited to the joint, and the limitation of movement therefore will be very marked. In acute osteomyelitis, while passive serous effusion into the joint is quite possible, the chief physical signs are not over the joint, they are at some little distance from the joint, and in acute rheumatism excessive local tenderness does not occur.

There is nothing which is so diagnostic as to see the attitude of a child with acute osteomyelitis when someone approaches his bed. A passing touch of the bed, a little quite unintentional, but probably unnecessarily firm handling of the limb, produce most extreme agony in such a child. Nothing so acute is produced by any other form of bone or joint infection. Yet, in spite of what I have said, there are a great many cases in which, in my experience, it is impossible to make a definite diagnosis except by a free incision, which in the first case should be through the periosteum and, without any doubt, should include free exposure of a wide area of cancellous bone over the region of local tenderness.



ON the evening of Friday, March 1st, several members of the oldest Medical Society in London were prevailed upon to dine early and with disgusting haste prior to embarking on the difficult journey to St. Thomas's. Reaching their destination more by the grace of Heaven

"Physical" Impossibilities

1.—THE HON. SEC.

A master with the minutes, he's
Almost as fast we hear on skis.

than the efforts of the L.C.C., they were led to a very impressive chamber, installed in the most comfortable armchairs, and provided with a remarkable display of clinical material, coupled with an alarmingly erudite discussion among the leading lights of an institution which, after all, is still young. The several members of the oldest Medical Society in London were rendered almost, if not completely, aphasic, but found their chairs a pleasant change from College furniture and the noise of the discussion as music in their ears.

W. H. ROMANIS, Esq. (*President*), welcomed the guests and twitted them on a discovery made by their forerunners of the drawing power, where the best cases were concerned, of a barrel of beer. Apparently in these days a dinner jacket was more useful. Seven cases were discussed in all.

Mr. BAWTREE (St.Thomas's) described the clinical history, signs and symptoms of his case of "nervous disease" in manner suave and sound. Having suggested tumour of the cerebello-pontine angle as a diagnosis, he called for questions with the air of a practised politician.

Mr. Wheaton (St. Thomas's) audibly blushed to think the diagnosis could possibly be correct, but had no alternative to offer.

Mr. Irvin (St. Thomas's) made the interesting suggestion of chronic meningitis producing internal hydrocephalus. This led—

N. L. Eckhoff, Esq., (Guy's) to break the visitors' silence with a proposal that ventriculography should be performed.

Mr. Trowell (St. Thomas's) was horrified and made cutting remarks about surgeons and the inevitable end of their investigations.

Dr. R. E. Smith (Guy's) had seen things in the X-ray of the patient's skull not vouchsafed to others. In his opinion there was bone porosis and the case one of multiple neuro-fibromatosis.

With some determination, Dr. Pickering (St. Thomas's) summed up the discussion in favour of a tumour of the posterior fossa, probably a neurofibroma.

Mr. ROBERSTON (St. Thomas's) gave an intensely clerical summary of a case in which an anæmia presenting certain characteristics of an Addisonian type had been proved due to extensive secondary carcinomatosis of bone.

Dr. Hampson (Guy's) quietly revealed defects in the investigation—no test for bilirubin in the blood had been performed. The post-mortem test for iron compounds in the liver had not been positive The rustle of lifted eyebrows became almost deafening.

Mr. HATT (St. Thomas's) gave his elegant attention to a chest case in which three diagnoses had been made. The initial suggestion of "ill health" made by the casualty officer proved to be the only one that could be definitely endorsed. The electrocardiographic evidence for coronary thrombosis appeared to be somewhat shaky, while pulmonary embolism would do quite well except that no obvious origin for the embolus had been discovered.

Mr. Elkington (St. Thomas's) pointed out a peculiarity in the onset of the condition.

Mr. Trowell (St. Thomas's) coarsely suggested common heart failure and talked a lot about the general practitioner's pride in a pleural rub.

Mr. GOLDSMITH (St. Thomas's) contrived to be quite amusing in an unconscious manner on his case of abdominal tumour with virilism in a woman. Post-mortem had revealed a tumour of the suprarenal cortex. The audience were rendered somewhat restless by the other details.

Mr. Bawtree (St. Thomas's) tried to open a general discussion on the complicated balance attributed to the endocrine system.

The President objected to any side track in discussion and pointed out that tumours of any endocrine organ were invariably associated with hyper-secretion.

Dr. R. E. Smith (Guy's) had apparently been taking the *Lancet* for more than two years. He remembered a similar case published 18 months ago in that journal and in which the results of operation were more fortunate.

Mr. MAISEY (St. Thomas's) confessed to considerable misgiving at showing a tumour of the breast. Clinical training usually commenced on cases of this nature, and hence discussion was apt to be more critical. Rapidly running through the whole pathological gamut, and anticipating an unholy desire for a Wassermann, he proposed lactation carcinoma or subacute mammary abscess as the most likely diagnoses.

Mr. Heather (Guy's) considered the conditions of the nipple to warrant a diagnosis of Paget's disease. Apparently no one else did, but—

Dr. R. E. Smith (Guy's) was interested in the pathology of this condition. He addressed his appeal to—

The President, who resolutely refused to discuss a side issue, but revealed some very definite opinions as to the tenderness of the axillary glands in this case and the conclusions to be drawn therefrom.

Mr. Reid (St. Thomas's) revealed secret information of research by two gentlemen with unpronounceable names on the subject of lactation

carcinoma, and then somehow became involved with the ubiquitous—

Mr. Trowell (St. Thomas's) in a rather questionable and definitely pubic episode. Honours were more or less even at the conclusion of this piece of pornographic backchat. The suggestion that with all due antiseptic precautions aspiration should be performed, drew from—

Mr. Maisey (St. Thomas's) the astounding information that the breast was to be removed at 9.30 ack emma the following day.

N. L. Eckhoff, Esq., (Guy's) gallantly leapt to the defence of the unfortunate female concerned and begged for more conservative measures.

The President conceded a very full consideration before the major operation was proceeded with.

Mr. Bateman (St. Thomas's) tried to arouse interest in a tumour which no one had seen. Quite possibly it may have been an implantation dermoid.

Mr. Wheaton (St. Thomas's) blushed quietly, but no one else was affected.

Mr. Reid (St. Thomas's) supported at the last moment by a sheaf of clinical records, gave an admirably crisp account of a case in which apparently two rodent ulcers had appeared in the same individual and in which one had taken on the appearance of an epithelioma. He outlined the proposed treatment on which he was considerably more at home, and called for suggestions.

Mr. Bawtree (St. Thomas's) revealed an impression that Guy's possessed untold quantities of radium and made great use of it.

N. L. Eckhoff (Guy's) gently corrected this impression, while the Guy's contingent wept salt tears of shame.

The President endorsed the diagnosis and indicated that bed time was at hand.

Dr. Hampson very politely said "Thank you," whereupon the visitors were roused from their coma in as dignified a manner as possible, and duly despatched to the cruder comforts of the Maze Pond.

CeT

A Transatlantic Topic

OF all the topics most discussed in America, Prohibition is undoubtedly an easy winner. Bigger and better navies and the Kellogg Pact are temporary issues : a presidential election rouses considerable enthusiasm every four years, but Prohibition is, like the poor, always with them. When one speaks of Prohibition one always has in mind America's experiment, forgetting that although numerous provinces in Canada have tried it, all but Prince Edward Island have repented of their folly and enforce less drastic laws. They managed to introduce it without the rest of the world paying much attention to them, but the States have become a laughing stock. Too many are the stories telling of the ridicule cast upon them, but one cannot help repeating the chestnut of the Frenchman, who remarked, as he entered New York Harbour and passed the Statue of Liberty : "I see you, too, put up statues to your illustrious dead."

The change from freedom to the present conditions was by no means a sudden one. Before the Eighteenth Amendment was passed, an increasing number of States were enforcing—or trying to enforce—Prohibition, and as many as 33 out of 49 States were already dry in 1918. Then came the strenuous last days of the war when the money of the underfed Allies was used to swell the support for Prohibition. America had its meatless days, and the drys decided this was the most opportune moment to pass its longed-for reform. These considerations, coupled with the fact that a large number of wets were on active service and did not vote, certainly helped to get Prohibition put into law.

The drys left no stone unturned to have their pet idea made permanent. It was made the Eighteenth Amendment to the American Constitution and required a three-quarters majority of the States and a two-thirds in the House of Representatives for its passage. It was the first constitutional Amendment which had ever interfered with the conduct of the individual. Summarised briefly, it stated that to sell intoxicating liquor in the United States of America was illegal. The next step was to know what intoxicating liquor meant, and this was done by the Volstead Act, which defined intoxicating liquor as any liquid containing more than $\frac{1}{2}$ per cent. of alcohol. Happily, titration in most places in America is not very accurate !

The immediate result of the Prohibition Law in 1920 naturally was not the same in different places, but the two-thirds majority who were instrumental in passing it attempted to give it a fair trial, which, however, in most cases did not last more than about six months, at the end of which time the various subterfuges now in vogue

started to be practised and the boot-legging profession was put on its feet. By about this time as well, most of the people who had put a little away for a " dry day " had finished their supply and lusted for more.

The so-called legal ways of getting liquor are somewhat numerous. Anyone is allowed to brew beer or make wine so long as they do not sell it. Some go considerably further and make most potent drinks, such as " apple jack " and " corn liquor." A few firms have the right to use alcohol to preserve pepsin for the jaded stomach, and they flavour these tinctures to resemble port, sherry and claret. Perhaps the most popular, but at the same time the most pernicious, method is the doctor's prescription. In no way does one wish to run down one's professional brethren, but there is no doubt that all the prescriptions are not justified, and doctors frequently lose patients through their consciences not allowing them to order alcohol. The doctor is allowed 10 gallons of alcohol a year for his dispensary, but much of this goes into preprandial tonics.

The illegal methods are much more intricate and, not having any friends among bootleggers, I can give no first-hand information. America's popular drink is the cocktail, which is usually made by procuring some " gin," which is almost invariably commercial alcohol, and adding to it a varying amount of orange and lemon juice with a sprinkling of mint and a little sugar and then shaking vigorously until the concoction usually tastes—to my gustatory organs—like furniture polish. However, as the mixture usually has a percentage of alcohol in the neighbourhood of 50 to 75, it forms a useful substitute for the cup that cheers. Prices vary a good deal according to whether one gets one's liquor from a respectable bootlegger or not. Lord Birkenhead states in his book *America Revisited* that the best Scotch whisky costs only 6*d*. a bottle more in New York than in England. The spirit is sold out of bond, and the duty which we pay in England just goes to swell the already bulky pockets of the bootleggers. It is impossible to eliminate the amount that is run across the border or smuggled in along the coast, but it must be colossal. In the year 1927–1928 10,000,000 gallons of commercial alcohol was estimated to have found its way into the hands of the bootleggers.

Wine is beginning to get back in popular favour. America has a large Italian population, who run a considerable number of restaurants, and there one is often able to get quite good wine, which they have made themselves. The fear that the Californian vineyards would become waste land with the advent of prohibition was ill founded, because the grapes are actually making twice the price they did 10 years ago.

From the preceding it ought to be obvious that there is very little in support of Prohibition. The arguments in its favour seem fallacious. The working man's saving accounts are higher to-day than at any time before simply because of America's undoubted prosperity, and would have happened in wet America just the same. True it is that labour is more regular and the employer can rely on his workmen, especially the negroes, to turn up on Monday mornings, a thing he could not do before. He is thus enabled to make bigger profits and so to trade with a respectable bootlegger. Such a law operates for the rich against the poor. While it is difficult to get much idea of how much drunkenness there is, an intern at a hospital situated in a district comparable to Guy's assured me that at least six drunks were washed out every Saturday night in their Front Surgery. This would certainly make Mayhew's eyes open ! In this particular hospital all the alcohol in the one laboratory was labelled poison until it was found that the attendant could not read and trusted to his more primitive senses of smell and taste. In another hospital alcohol goes under the name of bile salts, and I have little doubt that this camouflage will soon be detected.

Perhaps the most serious criticism of prohibition is that people do not mind breaking the law. Their consciences are satisfied that it is an unjust curtailment of personal liberty, and as those who sheltered slaves with carpet bags before their emancipation were looked upon as worthy citizens, so will they be considered when prohibition is repealed, which, however, is not very likely to happen. In many States the police do not try to interfere, and there is no doubt they put their telescopes in many cases up to very blind eyes, eyes perhaps sometimes blinded by dollar bills. The law is enforced in some States, chiefly those which were dry before 1918, and which are somewhat antiquated, that is if one considers objection to the teaching of Darwinism sufficient proof.

Prohibition has undoubtedly failed because it cannot be enforced and the law is laughed at, and, further, because it has given considerable power to a most undesirable body of men—the bootleggers. It has also put spirits in the place of less obnoxious drinks. This is a very serious criticism, because girls and boys in their teens would not turn to " gin " if light wines and beer were at hand. The latter, of course, need far more running per gallon of alcohol, and do not pay so well.

Many an American reading this would probably criticise an Englishman for daring to discuss his

own private affairs, and would be horror stricken if advice about a solution was given. There is little hope of a satisfactory solution at present. Most of the States in Canada when they repealed their dry laws did not go back to pre-war conditions. In Ontario at present the licensing scheme is in vogue whereby one gets a licence to buy drinks which costs a few dollars a year, and this is presented when alcohol is purchased and the quantity bought entered on it. If one does not behave and is arrested the amount bought is known, and if this is thought excessive the licence is not issued again, or only in certain restricting conditions. This is said to be a very satisfactory arrangement, but nothing like this is to be hoped for in America at present. Before this could be done the Eighteenth Amendment must be annulled, and it will be the first to be repealed since the Constitution was passed in 1776. It requires a three-quarters majority of the States and two-thirds in the House of Representatives to repeal a Constitutional amendment, while the bootleggers, and many more who profit out of prohibition, such as shareholders in ginger ale, combined with the few myopic "drys," will see that this does not happen. The only hope on the horizon is that the Volstead Act will be altered and the percentage increased from ½ per cent. when light wines and beer may be classified as non-intoxicating liquors.

Where the drys made their mistake (though not one they will ever admit) was not to be content with 33 dry States out of 49. They should have been satisfied, like England, with a steady decrease of drunkenness as a result of high duties with early closing hours, and not deluded themselves with the idea that total prohibition would bring about the ideal state of sobriety.

TIPPLER.

Some Items of Dental Interest

A Paper read before the Dental Society by D. W. C. Northfield, Esq., F.R.C.S., L.D.S.

MR. PRESIDENT AND GENTLEMEN,—I would like, at the start, to place upon the right shoulders some of the responsibility for my appearance here this evening. It is several months ago that Mr. Lloyd approached me—with persuasion and bullying—to read a paper. I begged in vain to be excused, and even the lack of a subject was quickly remedied, for he suggested I should present any criticisms or opinions on dental matters formed during the last five years, since I was a Dental House-Surgeon. This is what I will endeavour to do, but please bear in mind that I make these remarks as one of you, and yet as an onlooker.

In the first place, there is the importance, in dental surgery, of anæsthesia—both local and general. I mention it because here in hospital one is apt to forget the uppermost thought of the patient, especially on visiting a new man. That thought is: "Will he hurt me?" rather than "Is he a good man at his work?" although even to his friends it remains carefully concealed, from sentiments of pride. May I stress this point in spite of the well-worn phrase of "painless dentistry"? I have tried to analyse my own feelings in the chair. now that I no longer cut out fissures and excavate caries with trepidation. And that the fear of unexpected twinges is considerable I am not ashamed to own. When the pain has arrived and is constant, it is relatively easily borne, but the apprehension of the immediate future, with one's faculties following every variation in the noise of the burr does cause considerable mental stress—especially evident before a visit. All this may sound foolish or redundant, but it exists in spite of any such opinion, as one who might be described as an "expert witness" can assure. *The moral?* That lies in the greater application of local anæsthesia in conservative work. When I was in this department only the larger fillings were done under an injection, but things probably have advanced since then. The feeling was prevalent that it was unnecessary and took too much time. Such a criticism is, in these days of high ideals, quite unworthy. Without anæsthesia, no cavity can be cut with the conscientious guarantee that it will be painless. In some cases the operator is lucky and gets away with his promise—if given—but it is a breach of professional trust. No operation in general surgery is ever performed on living tissues without some kind of anæsthetic, for efficient work cannot be performed otherwise. The solution to the question of time is lack of routine and simple technique. A contemporary friend, now a partner in an immense practice, gives local anæsthetics for every filling as a routine. He maintains that he could not get through the day's work unless he did. The benefit to both operator and patient is enormous, the freedom from worry not to be valued in money. I trust my plea has been sufficiently urgent.

Now, let us turn to the position of general anæsthesia in dental practice. By that term,

incidentally, one includes gas, for there is a tendency to speak loosely of "gas or a general," where we really mean "gas or ether." I have been trying to persuade you to use local or regional anæsthesia as a routine measure in conservative work. In contrast, it is my opinion that for extraction and the other open operations of dental surgery general anæsthesia has been too much neglected. In the last paper read before this Society I was glad to see that Mr. Taylor was counselling this view—that general anæsthesia should be chosen for the major operations rather than an extensive injection anæsthetic.

Without question, in the presence of acute or chronic sepsis, local anæsthetics should be avoided. Under a suitable "general" there will be less post-operative pain and greater care can be taken, there being no time limit to consider, nor the factor of fatigue of the patient in a long and tedious extraction. I feel suspicious that post-extraction pain may be largely attributed to submucous injection, from tissue trauma, due both to the infiltration of fluid under high pressure and extreme vaso-constriction over a lengthy period of time. Do not, however, let me mislead you, for in the majority of cases, for single or several extractions, local anæsthesia is the method of choice.

Perhaps, *en passant*, a few points to be considered in administering gas might be acceptable. A number of dental surgeons always give their partner's anæsthetics, and thus become extremely expert. Some patients are unfavourable subjects for gas, except when given by a practising anæsthetist, and the dental surgeon should be in a position to recognise such. Elderly people with a high blood pressure and arteries hardened by disease—fibrosed and calcified—should be dealt with carefully. Information can be obtained from the pulse, which is full and bounding and hard, only obliterated by considerable pressure with the examining fingers. The arteries themselves are abnormally palpable, perhaps stony hard and tortuous. In such, a badly administered gas, from lack of oxygen and increase in carbon dioxide, will cause a rise in the blood pressure. This may precipitate the rupture of a weakened vessel in the brain or damage an already over-taxed heart. Another unfavourable subject is one suffering from that type of heart disease known as auricular fibrillation. Here the heart is beating without rhythm, irregular in force and time and output, and may be recognised by the characteristic pulse. On palpation the beats come through rapidly at very irregular intervals, with sudden leaps and rapid runs, and the individual pulsations are all unequal in volume and strength, although the patient may apparently be very little incommoded. Again, patients prone to asthma, and those who very easily faint, having an unstable vaso-motor system, may cause anxiety. A good working rule is the ability of the patient to undertake moderate exertion without undue breathlessness. The reaction to exercise is the criterion of the heart's reserve of strength. But, naturally, this question of the administration of gas to any but a normal healthy person is for the doctor or anæsthetist. The dental surgeon merely wants to be able to recognise the dangers.

Whilst on this subject of gas I must confess that I would like to see more frequent use of oxygen as an adjuvant. Some apparatus could surely be devised for the administration of gas and oxygen with accurate calibration of proportions, convenient for dental work. Those horrors—jactitation and cyanosis—need never occur if a small percentage of oxygen be added, and anoxæmia is a really dangerous condition even if present for a short time only. They never occur when continuous gas and oxygen is being given for general surgical work, and much greater relaxation is obtained with the expenditure of a little more time in induction.

There remains the question of anæsthesia for the long mouth operations. Here, ether holds the field—apart from the method of induction chosen by the administrator. Ether used to be given as a warm vapour blown through rubber tubes via the nose into the pharynx. Next, it was given through a catheter passed into the trachea through the mouth by a direct laryngoscope. This was a great advance, for, with sufficient pressure, the return current of vapour prevented the aspiration of blood or infected matter into the lungs—a potent cause of pneumonia. The disadvantage was that the mouth gradually filled with a bubbling, seething froth of blood, necessitating the use of some sucking apparatus to keep the field of operation clear. This is now obviated by the passage of a second tube into the larynx to act as an outlet for expired air; the whole pharynx is then packed with gauze around the tubes. And, to give the surgeon further room, both these tubes or catheters can be introduced through the nose into the trachea. So let your imagination run riot! However difficult an impacted wisdom it may be, anæsthesia maintained through the nose leaving the whole mouth clear, the pharynx plugged so there are no bubbles and no noise, and the jaw—perfectly relaxed—may be pulled and depressed by the dental surgeon with impunity. That is the anæsthetic you may demand, surely preferable to an hour's great mental tension for

both, with a tired and aching jaw as an extra burden for the patient.

I would like to raise a few points concerning operative technique and judgment in the dental treatment of general diseases. In cases where extensive extractions are to be performed, the dental surgeon should endeavour to consider the operation less lightheartedly. The patient should be confined to bed as for a minor surgical operation, such as tonsillectomy. A general anæsthetic of ether is preferable, administered by some such method as I have described, and the patient is given every advantage of modern surgical practice, in which you are specialists to a high degree. Afterwards the patient should remain in bed for a day or so, and will then rapidly recover. The practice of performing multiple extractions in an adult in a chair, followed by a journey home, is, in my opinion. reprehensible if it can possibly be avoided. Apropos of the extractions, I am curious to learn whether enough attention is paid as a routine to the alveolus. This structure used in my time always to be ignored, provided, of course, there were no large pieces palpably loose. Among some dental surgeons it is common practice to anticipate Nature's absorption by removing most of the projecting alveolar plates, especially from the anterior part of the arches. This is done after the extractions by reflecting the gum and exposing the free edge of alveolus, and nibbling with bone forceps until firm bone is reached. A smooth ridge is quickly formed for the reception of dentures. The gum flaps are replaced and held together with sutures of thread or catgut. I have been amazed at the rapid convalescence of these patients, with complete absence of pain and sepsis, rapid healing, and, moreover, full dentures can be comfortably worn at the end of three days. By this time they can be allowed out of their room, and their friends know very little of what has happened. Further *kudos* for the dental practitioner ! If these few days can be spent in a nursing home so much the better, but excellent treatment can be effected in their own homes, and efficient mouth hygiene will more likely be carried out when thus "laid up." I am often surprised why alveolectomy and gum suture is not more frequently practised as a local measure. But let me remind you, never make the mistake of suturing gum in the lower molar region, unless the socket can be completely eradicated, which one can rarely do. I have seen distressing consequences follow the accumulation of sepsis with an absence of adequate outlet. Syringing of sockets, to be of any value, should be done with the small metal syringe we all purchased with our dental outfit, or with one possessing a similarly angled fine nozzle. Each socket must be dealt with separately, and the stream directed accurately into, and never too fiercely. I have a strong prejudice against that mighty instrument in the Conservation Room, the atomiser — for extraction sockets at any rate it is a clumsy and dangerous weapon.

Consequent upon infection of sockets, one is frequently meeting conditions of submaxillary cellulitis and adenitis. Suppuration may occur inside the mouth as a peri-alveolar abscess, others point on the skin as a local suppurative periostitis, or a submaxillary abscess from breaking down glands may result. Perhaps the commonest complication is a cellulitis that resolves spontaneously. Earlier incision—frequently possible within the mouth—should be aimed at, where suppuration outside the socket is diagnosed, rather than a policy of intra-oral fomentations and apprehensive inactivity. These patients have great pain, and hot carbolic mouth washes certainly alleviate it. Another comfort is the application of *dry* heat to the side of the face. The view held that heat from without may be a factor in causing an abscess to point on the skin rather than within the mouth is, I am sure, a fallacy. If there be pus under the buccal mucosa it should be evacuated. If not, then heat will be very comforting and only a factor for good. Similarly, painting the skin with collodion cannot conceivably retard or direct the cellular reactions occurring in suppuration.

I made mention just now of pain. How many dental surgeons remember that pain is a frequent sequela of an extraction and forestall the patient's complaint with a remedy ? Aspirin is a great standby, in 10 grain doses. And if 10 grains of medinal be given with it sleep will generally ensue in the presence of moderate pain. When the pain is more severe, a mixture I have found very potent is 10 grains each of medinal and aspirin, and 20 grains of Dover's powder. The dental surgeon should most certainly keep a stock of such drugs in tablet form; they are as important as his bottles of tricresol, zinc oxide and oil of cloves.

Whilst I have the opportunity, I feel I must touch on the hackneyed theme of focal sepsis, but with a note of warning against misplaced enthusiasm. In all cases referred to the dental expert for evidence of dental inspection, let him be absolutely certain of his position. The examination should be minute, and is definitely incomplete without a radiogram. It does measureless damage to the profession, when obvious areas of apical rarefaction are missed through not X-raying the jaws. Judgment should be acute, and each tooth critically considered before being condemned. A final decision should be made when necessary in consultation with the doctor, for much depends on the stage of the disease—generally a joint con-

dition or fibrositis. In early cases, presenting considerable activity as evidenced by local signs of sub-acute inflammation of joints and general signs of toxæmia, much may be hoped for if definite dental sepsis be present in the absence of other septic foci. Consequently, more radical measures are justifiable. I am, however, quite unimpressed by the results of wholesale condemnation of teeth in conditions of less definitely subacute toxicity. Patients with gross organic changes around or in joints generally benefit far more from physical and manipulative therapy than from fitting full upper and lower dentures. Incidentally, if a patient cannot afford financially to have dentures after multiple extractions, his health cannot afford the loss of the teeth. The dental surgeon must have a rational basis for his extractions, and under pressure exerted by the doctor should only extract against his own judgment after registering a strong protest. All this perhaps is unorthodox and even heretical, viewed from both sides of hospital life. But it is what I believe to be the sane attitude between two extremes of treatment. Another condition in which dental treatment is pursued too enthusiastically is trigeminal neuralgia. The true tic-douloureux is generally easily recognised, and, n my opinion, the patient is generally edentulous by the time the general surgeon is asked to inject the Gasserian ganglion. Surely misplaced zeal or mistaken diagnosis!

Your patience, gentlemen, will shortly be rewarded, for I have reached my last subject. Dental education and the status of the profession—a highly controversial matter—greatly interests me, and it often leads to much argument in the College dining room. Owing to the immense growth of knowledge, this is an age of specialism in medicine and surgery and dental surgery is a very highly developed branch of both medicine and surgery. This is reflected in the growing number of men who take the Conjoint and L.D.S. Diplomas, but at present, owing to financial and time factors, an ideal possible only of realisation for the minority. The new regulations of 1923 relating to the licence have made some provision to remedy this lack of practical medical and surgical knowledge. But I doubt whether it is nearly sufficient. I would like to see dental students attending the teaching rounds in the medical and surgical wards and their compulsory presence in the theatres during some period of their hospital curriculum. There would be gained a working knowledge of surgical practice and technique, and some degree of familiarity with such conditions as heart and lung diseases, gastric disturbances, the anæmias and those conditions associated with focal sepsis. This programme sounds immense, but with due consideration I feel persuaded it could be accomplished. Such a curriculum would be of great value in two directions, amongst others. It would give the student greater interest in his clinical work, appreciating more the indirect benefit to the patient of his treatment. The nobility of the healing art would be apparent to him, and he would view with horror the thought of leaving caries under a filling, or omitting to build a good contact point. In the second place, medical and dental students would be brought into closer contact, to the lasting benefit of the developing practitioners.

At the present time there is very patent a tendency to friction between medical, surgical and dental professions; at any rate, among the more junior members of each. I do not know whether to describe it as tragic, pathetic or ridiculous—perhaps the last. Especially is this evident in hospital life, where it is conceived. It is manifest to me almost daily in the conversations and criticisms I hear, some even bitter and harsh, generally due to ignorance of the true facts. It is my privilege always to protest vigorously and point out many defects on all sides, but that is merely the voice of one crying in the wilderness of intoleration and misunderstanding. The foundation of professional regard and status is laid during hospital years. Along the lines of a curriculum as suggested these could be truly laid in good fellowship, with a correct perception of one another's worth and work. It should be the aim of every qualified man in practice to work hand-in-hand with his colleagues, medical or dental. May I conclude with a personal experience? Two of my dental contemporaries have now been in practice for five years. Each has an excellent practice from every point of view. One of them knows most of the local doctors, and they consult together over the benefit of their treatment to their mutual patient. That is a very happy and contented friend. The other has somehow or another never been able to get in touch with the doctors, and, as he has bemoaned to me, he gets a distorted view of his dental treatment. His practice lacks the general interest present in that other, and he now confesses to me a feeling of great dissatisfaction, as though further advance were impossible. He is losing his ideals and his work is becoming mechanical, although it will always be technically perfect. Do you perceive the great contrast I have drawn, and the co-operation which makes for your happiness and the greatest good for the patient?

Change of Address

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Correspondence

Impetigo

To the Editor of the GAZETTE

SIR,—Reading the lecture in a recent number on skin infections by Mr. Dowling prompts me to send a note on a method of treating impetigo which has proved superior to any other, and is as follows :—

After the removal of all pustules and scabs by firm rubbing with a 1 per cent. lysol, apply a 10 per cent. solution of argyrol and cover with a layer of dry gauze. One dressing, if thoroughly made, will usually eradicate the disease. The cleaning is to be effected by small pledgets of wool held in forceps, a fresh piece for each pustule, and it is important to rub the part until the surface oozes serum.

Germs seem to flourish under ointment, and lotions are difficult to retain, while the dry gauze adheres to the skin. Moist dressings tend to promote infection. In long standing cases where the skin is indurated a stronger solution of lysol is necessary, and even liquor potassæ may be required. The argyrol should be applied by a probe or minute pledgets of wool tightly compressed.

In a case of a strongly bearded young man with "serum rash" it took two hours to remove all pustules and every red spot—a second application was not required. This after failure with ointments and lotions under expert advice.

The method proved equally successful in the pustular dermatitis occurring around septic war wounds.

Yours, etc.,

SENEX.

14, Portland Place, W.1.

The Choice of an Anæsthetic

To the Editor of the GAZETTE

SIR,—In his attractive paper published in the last issue of the GAZETTE, Dr. Parry-Price has been, of set purpose, provocative, for he wished to stimulate discussion. He can and must therefore forgive me if, while I congratulate him upon his sympathetic attitude towards his patients and his modern outlook, I attack him gently for making two statements which appear to be the products of insufficient thought.

One statement was, "the use of morphia before pure chloroform is always a danger." Now, this teaching, I believe, to be erroneous, for I have found that for certain patients—*e.g.*, the highly nervous and for those suffering from a very high blood pressure and atheromatous arteries—morphia is invaluable. In the former class the excitability of the nervous system is too great for it to be unduly depressed by morphia, or even morphia and scopolamine, whilst in the latter class, especially if aneurysmal dilatation exists, the avoidance of cyanosis, straining, and struggling is best secured by a combination of morphia, chloroform and oxygen. It is true that cases of cerebral hæmorrhage during anæsthesia are rare, but they do occur, and have ended fatally.

The second statement recalls to my memory a Clinical Lecture of mine on spinal analgesia published in the GAZETTE in 1925; in it I attempted to show that the teaching that "the fall in (blood) pressure is nearly always swift and always severe" is based upon the discarded technique of the early practitioners. The doses used in the past were excessive, and the causes of the fall in pressure were not understood, nor were readings of the pressure taken. Even when it was obvious to the onlooker that the pressure was rapidly falling, the head and shoulders of the patient were still kept raised. Now, sir, I should agree with Dr. Parry-Price that "spinal anæsthetics are far from being the safest" were it impossible to avoid this severe fall and were our only remedy the intravenous injection of adrenalin, the effect of which is transitory. But the position is, as I have indicated, quite different. The truth is that the dose of stovaine or novocaine must be graded to suit each individual patient, while the nature of the operation, the age and general condition and blood pressures —*systolic and diastolic*—must also be taken into account.

The fall should be slight or moderate, never severe and never rapid, and if treatment is necessary the simple remedy of tilting the table should be adopted. Care must be taken to lower the table gradually at the end of the operation, to keep the head low during the removal of the patient to bed and to keep it low when he is in bed.

If ephedrine proves to be as valuable in restoring the blood-pressure as has been suggested, spinal analgesia should again come into use in selected cases for upper abdominal operation.

Yours, etc.,

FRANCIS E. SHIPWAY.

55, York Terrace,
Regent's Park.

A Reply

To the Editor of the GAZETTE

SIR,—I am only a simple girl, having recently been introduced to the great and noble profession of Nursing, and I read with horror K. J. C.'s cynical letter in your last issue. I was very much upset, and it was only with difficulty that Home Sister got me to sleep.

I have observed with admiration the loving and reverent attention our nurses give their patients—and those in immediate charge of them.

I feel sure no nurse, however humble, pours drugs down patients *unthinkingly*; indeed, she must always be conscious that precious lives are in her hands.

As for the unfounded attack on our courteous, deft-fingered surgeons and our gentle understanding physicians—far be it from me to mention names, but I have met with nothing but kindness at their hands; one in particular, who was so good as to take me to see *Ramona*—the film, not the play—I shall always honour for his tender insight.

As for K. J. C.'s insinuations about people reacting differently to drugs, though I may be only a junior pro., I have never seen much variation in the results of administering Ol. Ricini.

If K. J. C.'s heart were as vulnerable as her body, she would understand the inner inwardness of the late Lord Tennyson's lines:—

"How near to gentleness may harshness be,
How much of anguish lies in sympathy."

Yours, etc.,
ALICE LOPER.

P.S.—As for noise at night, the House Man who succoured me in my hour of need wore neither shoes nor stockings.

The Nurses' Home,
Guy's Hospital, S.E.1.

Sport

Guy's v. Rosslyn Park

ON Saturday, February 2nd, Guy's visited the Old Deer Park, Richmond, and defeated Rosslyn Park by 2 goals and 1 try (13 points) to 1 try (3 points).

Prior to Saturday's game, the home side had not been defeated since the middle of October, when they lost to Richmond. Since then they had won 12 consecutive games.

The performance of Guy's was the more remarkable as in the course of the game they lost the services of Lashmore in the first few minutes with a broken rib, and Windsor Lewis in the second half with a damaged leg.

Just prior to the match W. Lewis was taken ill with influenza, and as a result the back division was reorganised by transferring F. H. B. Spence to the left wing and introducing T. Fichardt as partner to Robinson. Fichardt, together with J. Kunovsky, came to Guy's from South Africa a week or two ago. The former is a centre from the Transvaal XV and this year was selected to represent South Africa against the All Blacks. Kunovsky is a front row forward from Cape Town University and was included in the Combined Varsities' XV which defeated the All Blacks last year.

To sum up the game one cannot do better than quote from the report in the *Daily Telegraph*:—

"The great triumph of the Hospital men, however, was the superiority they established at the start and maintained for nearly half an hour. During this period they quite outplayed the Park, their forwards scrummaging much the more effectively and showing greater quickness in following up, while the backs handled a wet ball with remarkable accuracy."

The whole of the movements were carried out with such remarkable precision that the Park defence were all at sea on each occasion that Guy's scored.

A prominent part was played by T. Fichardt. Considering the adverse conditions and this being his first appearance on English soil, he showed a fine turn of speed and fitted well into the three-quarter line.

From the kick-off Guy's at once attacked and pressed the home side in their 25. Robinson missed a good opportunity to open the scoring after 10 minutes' play, but soon afterwards Spence gathered near the touch line, worked his way inwards and gave to I. K. Thomas. The latter sent in Fichardt for an excellent try, which Hogbin converted.

Persistent pressure by the Hospital XV kept the Park on the defensive and on several occasions their line had narrow escapes.

Half an hour after the start Guy's added to their score through Fichardt, who registered another try, which was again converted by Hogbin. Windsor Lewis took a prominent part in the movement which led to this score and paved the way to enable Fichardt to put the finishing touch.

The second half was more evenly contested, and in the first quarter of an hour Guy's were heavily pressed. However, with the defence first class and the tackling brilliant, the home side were kept out, but, unfortunately for Guy's, Windsor Lewis was badly hurt and had to leave the field.

This further misfortune inspired the Hospital to supreme efforts, and from then onwards they dominated the play.

The forwards played splendidly and eventually drove the Park to their own territory. Following a high punt by Fichardt, which Chantrill, the full back, misfielded, Robinson dashed in and scored a splendid try, which was not converted.

Every member of the team is to be heartily congratulated on such an excellent performance. Splendid team work and not individualism has brought about the change in the Hospital's fortunes, and it is to be hoped that it will continue.

Guy's Team—D. F. Ryan; T. G. Robinson, T. Fichardt, I. K. Thomas, F. H. B. Spence; Windsor H. Lewis, I. C. Wilson; J. R. F. Popplewell (capt.), G. F. Lashmore, C. D. Malone, R. A. P. Hogbin, A. R. Clarke, T. Morgan, J. S. Batchelor, D. S. Clogg.

Guy's *v.* Cambridge University

AT Cambridge on Wednesday, February 6th, Guy's put up another creditable performance when they drew with Cambridge University, each side scoring 3 goals and 1 try (18 points).

Cambridge fielded the side which only just lost to Bristol on the preceding Saturday with the exception that Guy Morgan resumed in the centre. Owing to injuries Windsor Lewis and Lashmore were unable to turn out, and their places were filled by A. J. D. Lewis and J. Kunovsky.

Cambridge at once attacked and in the first minute Reeve was all but over the Guy's line, but Ryan saved. Immediately afterwards Adams broke through and passed to Reeve, who scored a splendid try behind the posts, which Waters converted. The University kept up the pressure for a time, but good tackling held up several promising movements. However, their persistency was soon rewarded when the forwards came away with a determined rush and, following some close passing, Williams eluded the defence and scored a try, which Waters again converted. This was after 20 minutes' play.

Stung by this reverse Guy's settled down, and for a time carried all before them. The 'Varsity defence appeared to go to pieces and the Hospital put in some excellent work.

The Hospital pack played splendidly, and in one of their numerous rushes Popplewell picked up in the loose and crossed the line, for Hogbin to convert.

Very soon afterwards a long pass was accepted by Robinson who, running with remarkable speed, eluded the opposition and scored a good try, for Hogbin to get a goal.

Another unconverted try by Popplewell quickly followed, but just before half time Jones-Davies brought off a spectacular run to score a try, which made the scores level—13 points each.

Guy's started the second half very strongly and on several occasions had the 'Varsity defence in a tangle. Eventually a long punt over the Cambridge line was misfielded and Spence, profiting by the mistake, pounced on the ball for a try, which Hogbin converted. For quite a time Guy's remained on top and should have added to their lead. On the other hand, several passes of the Cambridge backs went astray and some good opportunities were lost. Jones-Davies was in great form on the wing for the 'Varsity and nearly succeeded in dropping a goal. Very soon afterwards he broke away again and was collared in our 25. Following a scrum, Guy Morgan picked up the ball in the loose and scored a try, which Waters improved. With the scores level a ding-dong struggle followed amidst tremendous excitement, but no further scoring followed.

Guy's Team—D. F. Ryan; T. G. Robinson, T. Fichardt, F. H. B. Spence, A. J. D. Lewis; I. K. Thomas, I. C. Wilson; J. R. F. Popplewell (capt.), C. D. Malone, R. A. P. Hogbin, A. R. Clarke, T. Morgan, J. S. Batchelor, D. S. Clogg, J. Kunovsky.

Guy's *v.* Aberavon

THE visit of the Hospital to Aberavon on Saturday, February 9th, resulted in a heavy defeat by 4 placed goals 1 penalty goal and 4 tries (35 points) to 1 try (3 points).

Guy's fielded a very depleted side, as in addition to several reserves, Robinson was taken ill at the last moment and Popplewell missed the train.

Luckily, Malone was travelling with the team as touch judge and the home side lent us a man to complete the side.

During the first half Guy's practically held their own, although during the early stages they had all their work cut out to hold the home team's attack.

It was not until a quarter of an hour had elapsed that Aberavon were able to score, and then Selby broke away from a scrummage and registered a try, which Jones converted.

Soon afterwards A. J. D. Lewis, in an individual effort, broke away and scored a fine unconverted try for the Hospital, and at half-time the score was 5–3 in the home side's favour.

Following the interval Aberavon's superiority forward soon asserted itself, and good heeling assisted their scrum half in initiating numerous attacks.

With their respective wings handling and running in first-class style, our defence was gradually overpowered, and in a very short space of time our line was crossed on several occasions.

Even allowing for the fact that Guy's had to face a strong sunshine, the defence blundered

badly at times, although very little fault could be found with Witherow, who was deputising at full back.

After James had landed a penalty goal, there came a remarkable burst of scoring by Aberavon, during which Nicholas (2), Selby (2), Jenkins, Ridgeway and Anderson ran over, three of which were converted.

Malone, Batchelor and Watson worked hard in the pack, whilst Witherow, A. J. D. Lewis and Clarke excelled against the determined forward rushes of the home side.

Guy's Team—T. P. Witherow; A. N. Other, W. Lewis, A. J. D. Lewis, A. R. Clarke; I. K. Thomas, I. C. Wilson; C. D. Malone, T. Morgan, J. S. Batchelor, D. S. Clogg, J. Kunovsky, W. E. A. Watson, J. P. O'Shea, A. N. Other.

Hospital Information, etc.

Pass List

CONJOINT BOARD

January, 1929

PART I (Anatomy and Physiology)

*I. A. MacDougall	†C. E. M. de Gruchy
E. J. Littledale	V. T. Powell
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C. E. P. Davies

FINAL EXAMINATION

Medicine

*A. J. Groenewald	D. Hugo
*I. Friedman	R. L. Frost
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T. D. T. Brocklehurst	I. B. Morris
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Pathology

S. J. Wheeler

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*R. Cutler	

Midwifery

*A. Wiseman	D. K. Gaitskell
G. Balasuriya	G. H. Greenway
K. S. Keele	G. J. Clarke
H. B. A. R. Densham	

* Have now qualified

SOCIETY OF APOTHECARIES

February, 1929

Surgery

R. Frankling

Medicine

*W. A. A. Collington	C. F. C. White

Midwifery

C. Skinner

* Has now completed the Examination

Papers by Guy's Men

R. P. Rowlands, M.S., F.R.C.S. Volvulus of the Intestine, *Brit. Med. Jour.*, 1929, i, 287.

C. Worster-Drought, M.D., and another. Porencephaly with Myoclonus and Congenital Heart Lesion, *Proc. Roy. Soc. Med.*, 1929, xxii, 392; *Sect. Study Dis. Childr.*, 38.

C. Worster-Drought, M.D. Rifle Bullet in Brain for Thirteen Years, *Ibid.*, 397; *Clinical Sect.*, 19.

Wm. E. Tanner, M.S. Central Osteomyelitis following Puerperal Sepsis, after Three and a Half Months' Abortion, *Ibid.*, 406; *Ibid.*, 28.

G. B. Dowling, M.D. Lichen Obtusus Corneus, *Ibid.*, 506; *Sect. Dermat.*, 18.

G. B. Pritchard, L.R.C.P., M.R.C.S., L.D.S. Some Notes on the Origin and Prevention of Gingivitis, *Ibid.*, 535; *Ibid.*, 23.

Frank D. Howitt, M.D., M.R.C.P. Physio-Therapy in the Treatment of Chronic Rheumatism, *Brit. Med. Jour.*, 1929, i, 338.

J. Lewin Payne, O.B.E., M.R.C.S., L.R.C.P., L.D.S. Fractures of the Mandible, *Clinical Jour.*, 1929, lviii, 77.

E. D. Grasby, M.B., B.S., and S. R. Trick, M.B., B.S. An Investigation of the End-Results of Colles' Fractures, *Brit. Med. Jour.*, 1929, i, 391.

H. W. Barber, M.D., F.R.C.P. Dermatology as a Branch of General Medicne: Lettsomian Lecture, *Ibid.*, 1929, i, 412.

A. C. Hampson, M.R.C.P. Grave Familial Jaundice of the Newly Born, *Lancet*, 1929, i, 429.

Appointment

E. Royston Saul, Dental Surgeon to the Cold East Colony, Sarisbury Green, near Southampton.

Marriages

FAWKES—GREEN—On February 9th, 1929, at St. Matthew's Church, Ealing, Roland Beattie Fawkes, D.S.O., M.R.C.P., of Cromer, Norfolk, to Beryl Constance Green, of Ealing, W.

MILLES—GILLESPIE—On February 12th, 1929, at Sefton Parish Church, Liverpool, by the Rev. Canon Wells, Reginald Douglas, son of the late Mr. John Milles, of Bootle, Liverpool, to Veronica Morrison, daughter of the late Mr. John Gillespie, of Stewartfield, Stirling.

GIBSON — DOUGLAS-CROMPTON — On February 16th, 1929, at Kinloch-Rannoch, Perth, William G. Gibson, of Glasgow, to Mercedes Douglas-Crompton.

Deaths

ATKIN—On January 20th, 1929, Alfred Howell Atkin, L.R.C.P., L.R.C.S.Edin., L.R.F.P.S.Glas.

HOSKER—On February 13th, 1929, at Kirklentham, Christchurch Road, Boscombe, Sir James Atkinson Hosker, J.P., M.R.C.S., aged 72 years.

KIDD—On February 21st, 1929, at Cape Town, Walter Aubrey Kidd, M.D., F.R.S.Edin., aged 76 years.

EDS. { O. P.
E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLIII — *23rd March* 1929 — *Number* 1061

PASSIM

WHILE sitting in the delicious rays of the Editorial ultra-violet lamp, musing comfortably on what we could discuss in Passim, and conscious of the glow of health and vitality which permeated our being, we were rudely awakened from our reverie by the well-meaning, but, to our peace of mind and body, completely shattering information from our neighbour that the Medical Research Council thought nothing, or less than nothing, of the effects of the ray therapy, as it has come to be affectionately called. We were profoundly disturbed. The sun shining so resplendently over the College was eclipsed, even our lamp, we thought, flickered momentarily under this shattering blow. Were we wasting our time? Was this radiant glow over our right pectoral region merely a snare and a delusion, a trap for the simple and unwary which had been cunningly set by an evil-minded body of men skilled in the behaviour of light, but having none in their souls? And these lamps, this apparatus, this purple atmosphere, did these things represent merely a scandalous waste of money and absence of foresight? Surely, our thoughts ran, we had not been undergoing this bi-weekly excursion into a land of sun and health only to learn that we had been worshipping false gods and that we might just as well, for all the benefit we were getting, have been occupied in applying to our persons the common or garden mustard plaster. Our mental gymnastics, which were by this time positively infra-red, included dark thoughts of cunning propaganda on the part of members of the Mustard Club. All the Medical Research Council to a man were probably staunch members of this fiery institution. So we raged on, all thoughts of Passim banished from our mind.

Slowly, imperceptibly, however, the rays were doing their work. Our thoughts became less violent and more pleasantly incoherent. We dozed. When awakened later by a twinge in our right shoulder we realised that this was but a reflection of the burning in our conscience at the realisation of how near we had been to harbouring base thoughts of this sunlit world that radiated round us. We arose refreshed, prepared to face a whole bevy of medical research councils without a qualm in our heart or a mustard plaster to our back and defy them openly. Such is the power of artificial sunlight.

▭

We note that the Council of the Royal College of Surgeons has appointed Mr. R. P. Rowlands Bradshaw Lecturer for the coming year.

▭

The unfortunate coincidence of a Cup match with last week's Fison Lecture was, no doubt, responsible for a somewhat smaller attendance than usual. For our own part, we found Sir Frank Marriot's powerful Parliamentary oratory not only a great contrast to the scholarly soporifics of some previous lecturers, but at the same time extremely invigorating. The sweeping flourish of the Front Bench suited a political subject, and the Anatomy Theatre table solidly withstood its relentless hammering as various points of importance were steadily driven into the wooden intellect of a largely medical audience. There could be no doubt of the speaker's personal enthusiasm for his subject. Close upon an indignant denunciation of the prevalent neglect of political questions in professional circles, came a full account of the momentous decision that preceded the revelation of Fison himself as a staunch Free Trader. However careful to avoid treading on ecclesiastical toes, the lecturer could not resist any opportunity that offered for a gentle pull on the ecclesiastical hind limb, a liberty graciously conceded by the Dean of Westminster in a closing

speech from the chair he had occupied with such beneficent distinction.

THE faces of the many ardent supporters of the Rugby XV which, earlier in the season, were tending to become permanently lengthened, have since the New Year been perceptibly lifted. And now, after the team's well-merited victory over King's in the semi-final, these self-same faces have broadened into a grin of delight. The final is awaited with hope tempered with some modest anxiety. We wish the team every conceivable good fortune and success in the game.

Judging from the posters of exhortation which bespatter the trees in the Park, we foresee that others besides the officials of the Rugby Club are taking the arrangements for the final sternly in hand. Organised "rags" at Cup Ties have recently tended to develop into disorderly rabbles of no set purpose and of Bacchanalian appearance, which, while being noisily amusing to the participants, have perhaps grown a little wearisome to the onlookers. So we hope that this year some really grand "rag"—vast, yet subtle—will be forthcoming from the original minds of the Committee which looks after these things.

DECENT burial of the College subway appears to be a lengthy process, with an almost endless pause at the stage when a triangular bricked-in space has been built to receive the funeral offerings. Our local underground system no longer provides that protection from treacherous elements or the comfort of a stable temperature that were the redeeming features of other days, while the convenience of descent at the northern end of Hunt's House is still denied us. "F. C. T.," shrinking from the ugliness of day, has been moved by the æsthetic qualities of nocturnal illumination to a poignant protest, which we publish in this issue. O Saltmarsh! Where is thy shovel?

IT is with very deep regret that we record the death of R. E. R. Palmer, a student at this Hospital, who died from heart failure following pneumonia while warded in Naaman. He was very popular among the many people who knew him here, particularly among members of the Sailing Club, of which he was recently the Secretary, and to which he devoted a great deal of time and enthusiasm. An obituary notice will appear in our next issue.

NOTICE

THE Post-Mortem Book for 1928 has been borrowed from the Pathological Department. Would the borrower please notify Professor Donaldson?

Encephalitis Lethargica

The Symptons, Diagnosis and Treatment

British Medical Association Prize Essay, 1929. By R. STEWART-HARRISON, Esq.

FEW diseases are so protean in their manifestations as encephalitis lethargica. Any attempt to describe it completely within the limits of this essay must, of necessity, fail. I shall make a brief generalisation concerning the nature of the disease and then examine certain cases in detail.

Encephalitis lethargica shows itself in two ways —an acute febrile stage which may be severe, mild or even apparently absent, followed sooner or later by a series of sequelæ. The acute stage exhibits the usual features of a mild febrile disease, to which are added symptoms of particular incidence upon the nervous system. These points are well shown by :—

CASE I, J—— P——, M., ÆT. 12
May 4th, 1928

Admitted for—

Nocturnal restlessness.

Past History—

Except for a bad attack of influenza in 1918 this was normal.

Family History—

Nothing relevant.

History of Present Condition—

Five days ago patient complained of headache while at school. He was sent home. His mother thought he looked ill and sent him to bed. She called in the doctor, who found he had a temperature and made a preliminary diagnosis of influenza. The patient became morose and intractable.

Three days ago the patient complained that the headaches were worse and that he saw "blurrily." That night he lay awake in bed until 5 a.m., being very restless. At 5 o'clock he went to sleep and remained so until the evening. This occurred again last night as well. He said that he saw double and also that he thought he saw some-

thing out of the corner of his eye, but when he looked it was not there. Appetite was poor, bowels regular and micturition normal.

On Admission—

Patient is apparently asleep, but he can be roused and made to answer questions fairly intelligently. He drops off to sleep immediately afterwards. No abnormality can be detected in any physical system, except the central nervous system. Here the signs are limited to the eyes. Both eyes, particularly the right, exhibit nystagmoid movements. There is a slight squint of the right eye. Visual acuity appears to be subnormal, for fingers are not counted accurately at 12 feet. There is now no diplopia, but the hallucinatory disturbances are unaffected, No other signs of involvement of the nervous system were obtained.

Observation at 1 a.m.—

Patient is wide awake and very restless. The bed clothes are very disturbed. Every little while there are well marked movements of the hands and, occasionally, the feet.

Patient appears normally intelligent, and his responses to questions are brisk. He complains of severe headaches (in spite of R. aspirin and medinal, aa. gr. xx) and also of diplopia, which does not disappear when he concentrates on the object.

Progress—

In three days the diplopia had disappeared and the headaches were much less. Alternation of sleep rhythm persisted.

This gradually improved and in about a fortnight the patient was discharged to convalesce, apparently unaffected by the disease.

The diagnosis of a case with such a history presents few difficulties, although physical signs are conspicuously absent. The cardinal symptoms are marked disorder of sleep and ocular disturbances in a febrile disease. They are not always present.

On the other hand, completely typical cases are found, and in many cases the diagnosis is only established by the occurrence of sequelæ. In one such case a typical Parkinsonian syndrome followed by a brief attack of appetite and mild delusions of persecution lasting a few days, without the classical symptoms of encephalitis.

Many varieties of symptoms occur in the clinical picture of the acute condition. I shall confine myself to those that I have seen.

The general symptoms of acute encephalitis lethargica exhibit less variability than the localising signs. Fever is usually present, generally moderate, although U. Economo reports a case with a recurrent temperature of 111° C. with recovery. Drowsiness is very common in the acute stage, sometimes combined with nocturnal excitement. It may progress to deep lethargy or coma. Headache is frequently present and is very severe and persistent as in a case reported below, when it required R. morph., gr. $\frac{1}{4}$, and hyosc., gr. 1/100th, to control the patient and give him some rest.

Psychotic disturbances are fairly common in the acute stage, but in all cases that I have seen, and most of those recorded by others, they are evanescent. Psychologically, they are usually of hallucinatory, mild paranoöid or manic-depressive types. They are not so severe as the true psychoses.

Signs of a local incidence are common and sometimes striking. Almost any portion of the nervous system may be affected, with a resultant paresis or paræsthesia.

All possible ocular disturbances are found, particularly those due to disturbance of function of the third cranial nerve, such as ptosis. One of my cases showed no headache in the acute stage, though a severe, but intermittent, neuralgia of the fifth nerve was present.

Another case showed hemiparalysis of the nerves to the tongue and fauces. At rest, when the patient's attention was directed elsewhere, the mouth was open and the tongue hung out. The left side of the tongue was anæsthetic, except to gross stimulation, which caused considerable pain. Upon deliberate protrusion the tongue was deflected to the left and showed a marked tremor. When the patient withdrew it into the mouth it lay on the right side. The fauces showed less than the usual motility, and on phonation the right glossopharyngeal fold showed a higher arch than the left side. There was no wasting. Taste was normal. These signs point to a lesion affecting the hypoglossal nerves on the right side, or, since the bulk of the evidence is in favour of an upper motor neuron incidence, a supranuclear lesion in, perhaps, the "nervus intermedius" or the anterior genu of the internal capsule on the opposite side.

The patient found it very difficult to swallow, and eventually she had to be fed through a tube. Speech was very indistinct. In about six weeks all these symptoms cleared up except the slurred speech, which remained bad.

The variable symptoms detailed above show the difficulties in the differential diagnosis of the condition. Among the organic diseases that may cause confusion are influenza, tuberculous meningitis, early disseminated sclerosis and cerebral tumours.

With regard to influenza, the differential diagnosis is in many cases impossible. The number

of cases of a febrile disease diagnosed as typical, or slightly atypical, influenza that by their sequelæ have proved to be encephalitis is very great. However, any case of influenza showing marked affection of the nervous system, more particularly when this is local in incidence, should be regarded with suspicion. Symptoms usually found in cases of tubercular meningitis that are rare in encephalitis are irritability, as distinct from excitability, photophobia and such signs as a positive Kernig and neck retraction.

In all cases of suspected disease of the nervous system, early examination of the cerebro-spinal fluid should be undertaken as routine. Although it is very rarely abnormal in encephalitis lethargica, yet it will assist in the differential diagnosis of such other inflammatory condition as meningococcal and tubercular meningitis, cerebral abscess, neurotropic syphilis and others.

Early disseminated sclerosis, more particularly a first attack, may present difficulties in differential diagnosis from the first manifestations of the sequelæ of acute encephalitis. But the encephalitis will usually give a history of an attack of a pyrexial illness, possibly accompanied by malaise and drowsiness that may be recognised as an acute attack of encephalitis. The lesions in early cases of disseminated sclerosis are commonly in the spinal cord and give corresponding signs. The intention tremor of disseminated sclerosis is different from that of encephalitis. A history of transient weakness, numbness and diplopia may belong to either condition.

A cerebral tumour usually shows a steadily progressing extension of signs and symptoms, while encephalitis exhibits slight recoveries and relapses in any particular symptom. Further, a cerebral tumour is usually more chronic than the most slowly progressing case of acute encephalitis. Anterior poliomyelitis, a disease of similar ætiology, might cause confusion, but evidence of a lower motor neuron lesion such as loss of reflexes and flaccid paralysis may nearly always be found, and such lesions do not occur in encephalitis.

Post-vaccinal encephalitis must also be considered here. This may occur about 12 days after vaccination. The clinical history usually starts with headache and proceeds with vomiting, pareses, delirium, coma and paralysis, leading either to recovery or death. No sequelæ have been observed. It is sometimes a complication of small-pox and chicken-pox. The post-mortem histology at once differentiates the condition from, and shows its similarity to, encephalitis lethargica; this is also the case with the clinical picture.

It is sometimes difficult to differentiate between encephalitis with a psychotic incidence and a true psychosis. Signs of importance are the rate of onset, for encephalitis is usually more acute unless there is a definite psychic shock to account for the psychosis, which shock generally gives a form of functional disease quite different from the psychotic manifestations of encephalitis.

Secondly, in cases of encephalitis some signs can usually be found that show the condition to be not entirely functional, such signs as a slight pyrexia, an irregular eye sign or other objective phenomenon.

In spite of this, one of the cases I have seen was in 1921 diagnosed as dementia præcox, his excessive sullenness making all subjective symptoms. He developed Parkinsonism in August, 1928, and examination of his history shows headaches, disinclination to bestir himself at all and attacks of transient diplopia. These perhaps should have established the diagnosis.

In spite of the difficulties of sure diagnosis owing to the varying types of the disease, which makes even classification almost impossible, it is found that the clinical picture—the obvious wish of the patient to be left alone, the slowness of response to question, the dull facies, the shiny skin—these, and other slight signs and symptoms, very frequently combine to make the diagnosis easy, even from the end of the bed.

The prognosis is bad. The statistics from the epidemics of 1918 and 1919 show an immediate mortality of about 25 per cent., sequelæ in 50 per cent. and some 20 per cent. of absolute recoveries. It is impossible at any time during the acute stage to give an accurate prognosis; the incidence of the sequelæ bears no relation to the severity of the acute condition.

Before discussing these sequelæ it is necessary to give a brief account of the ætiology of the condition in order to make even a guess at the best therapy. It is the acute stage that provides the best evidence on this point.

Strauss and his colleagues in 1919 took the naso-pharyngeal mucus of a fatal case of the disease and filtered it through a No. 3 Berkfield candle and injected it into monkeys and rabbits. In all cases they produced a typical picture of the disease in the animal, and on post-mortem examination they found the perivascular infiltration of the small vessels of the brain, the glial proliferation and neuronophagy characteristic of the disease in man. In some cases the controls were positive, but in most negative. The positive cases they set down to carriers. The clarity of this observation has been somewhat obscured by the introduction of the "Herpes" problem. From the great mass of data one may select enough to provide a basis for some more accurate generalisation as to the ætiological factor.

Strauss and his colleagues showed that transference of the virus from a herpes febrilis vesicle resulted in a form of encephalitis in the infected animal; also, transference of serum from an encephalitic subject to a rabbit resulted in an outbreak of herpes. Other observers had irregular results or failed entirely in this experiment.

Further, Bastai and Busacca infected human subjects with herpetic virus, and although the virus persisted for many weeks none of the subjects developed encephalitis. They found also that, although the cerebro-spinal fluid of individuals recovering from herpes febrilis might contain herpetic virus, they had not, and never had, encephalitis.

Parker considers that the early results were accidental, due to the fortuitous presence of herpes virus in patients suffering from encephalitis. On the other hand, Perdreau obtains typical herpes in rabbits by innoculating them with encephalitic material mixed with the brain substance of a herpes-immune rabbit. Brunl also records that herpes virus injected in small doses into partially immunised rabbits induced an almost typical encephalitis in the animal. The recorded observations on these points are both numerous and variable; in many cases they are highly contradictory. It is unwise to exceed the conclusion that encephalitis lethargica is a filterable virus. There are, perhaps, some possible speculations. In addition to smallpox, several other diseases of the exanthematous type, such as chicken pox, measles and typhus have recently been shown to possess features indicating the occasional incidence of the virus on the nervous system. Nearly all virus diseases affect either the nervous system or the skin and the mucous membranes—that is, the structures of ectodermal origin, some having a neurotropic, some a cutaneous incidence, and some both. The reactions of these structures are essentially inflammatory, though they may differ in extent and severity and there is, perhaps, a possibility that there is a basic factor present in many or all virus diseases to which may be superadded specific factors determinant of the nature and the site of incidence of the disease. These speculations are very consistent with the possibility of an involved relationship between the viruses of encephalitis lethargica and herpes febrilis, a relationship demanded by many of the experimental observations recorded above.

However, it is very certain that encephalitis lethargica is an infective disease with a virus as the causal agent. Presumably, the virus forms the directly poisonous, non-living toxin.

Microscopic examination of the material from cases shows characteristic perivascular infiltrations of round cells, with glial proliferation and neuronophagy, most marked in the thalamus and the circa-thalamic regions such as the tuber cinereum, etc. Clinical evidence supports this circa-thalamic incidence.

The establishment of the virus in the nervous system will lead to an attack of the disease, and after this the virus may be eradicated or it may persist and lead to a second attack after a period of months or years.

CASE II, I—— B——, ÆT. 17

Admitted August 8th, 1928, for a pharyngeal abscess

1920—

Patient was attacked with a disease diagnosed as chorea. She had previously been healthy. The symptoms were twitching of face and left leg, with fever and nocturnal sleeplessness. It lasted six months. It was followed by a change in her mental make up, although the movements stopped. During the following years her intelligence did not grow and she remained solitary and dull.

September, 1927—

She was ill again and in bed for nine weeks. The symptoms were insomnia alternating with drowsiness, tremor, apathy and various eye signs. After nine weeks she began to get up and for a little while she was better, but about Christmas signs of sequelæ that will be discussed below began to appear.

In May—

A further attack in an acute form occurred. For a fortnight she suffered from severe headaches, diplopia and malaise with fever. The alternation of sleep rhythm recurred. The chronic symptoms became steadily worse.

This case shows clearly the capacity of the disease to remain dormant and to reappear after some years. It is very probable that the illness in 1920 was a case of acute encephalitis, with the choreiform onset that has been frequently observed. It is worthy of note that there are few authenticated cases of an acute first attack occurring after 1924.

It seems, however, that the virus is eventually eradicated though its effects remain and lead to a large number of sequelæ that are often far more serious than the disease itself.

These sequelæ may follow immediately upon the acute stage or there may be a period extending to years of apparently perfect health followed by severe sequelæ. Sometimes the acute attack may have been so slight that it has passed unnoticed, sometimes the sequelæ are slight, though the case has a history of an acute attack almost fatal.

As in the acute stage, the diversity of the signs and symptoms that may be present is very great, but post-encephalitics may be grouped into three or four fairly distinctive types, any of which may follow on any variety of acute encephalitis.

About a quarter of all cases of acute encephalitis show sooner or later the Parkinsonian syndrome. The differential diagnosis of this condition from the original paralysis agitans described by Parkinson is not difficult, though the resemblance between the two is superficially striking. The term Parkinsonism has recently become transferred to the post-encephalitic condition, and is usually confined to the condition. It is well illustrated by the following case :—

CASE III, E—— H——, ÆT. 32, M.

April, 1924—

Quite suddenly the patient became very sleepy, and within three days of the onset of the attack he was asleep 23 hours of the 24. This lasted three weeks. There were no other symptoms recorded save occasional very severe headaches. After three weeks he began to recover and he was soon practically normal. There was some pyrexia at this time. Three months later there was a recurrence. He was lethargic for about a week and then recovered. This attack was afebrile.

September, 1926—

The patient noticed that his left arm was weak, and in November his mouth began to twitch. By the following May his left arm and also the jaw were weak. The limbs showed fine tremors and seemed stiff. He was somewhat insomnic, but otherwise he felt quite well.

September, 1927—

He was seen as an out-patient, when, in addition to the above symptoms, there was weakness and stiffness of the left leg, causing a defect in the gait. Patient's face was strained and staring, with a moist, greasy appearance. He had Parkinsonian facies. The signs and symptoms remained about the same until May, 1928, when, rather suddenly, they became much worse. He was admitted to hospital.

On Examination—

The patient is normally intelligent, but depressed and apathetic. His speech was slow and slurred. There is marked " cog-wheel " hypertonus of the left hand and arm and both legs, more so in the left. There is a slight coarse tremor in these limbs. Movements are slow in inception and execution. These signs are all much worse if the patient has his attention drawn to them.

Routine examination of the nervous system revealed no abnormalities beyond an occasional slight squint of the right eye. All reflexes were normal and æsthesia was normal.

Progress—

The patient became worse and eventually he was quite helpless. Five weeks after admission he was discharged to the chronic ward of an infirmary.

This is a typical case of post-encephalitic Parkinsonism. The grounds for differentiating it from paralysis agitans are age, the character and patchy distribution of the tremor and rapidity of progress to a bad and often fatal condition. Further points in the differential diagnosis sometimes found are myoclonus, which is rare in paralysis agitans, and true mental changes, common in paralysis agitans but rare in Parkinsonism. Characteristic of Parkinsonism is slowness of speech and mastication. Characteristic of paralysis agitans is the slow and steady progress which is not necessarily present in Parkinsonism.

On the other hand, many cases of Parkinsonism are atypical, and they may present difficulties in diagnosis.

The Parkinsonian rigidity may be very slight and symptoms of functional nervous disorders such as insomnia, apparent or actual bradyphrenia may be associated with it. Evidence of lesions of the cranial nerves (ocular crises, dysphagia) and of the somatic nerves (palsies, parasthenias) are also found in conjunction with Parkinsonism. The true behaviour disorders are, however, rare.

The phenomenon of " akinesia paradoxica " is also found. The patient is able to run and perform similar quick movements although the slow ones are carried out very imperfectly.

Of a second type of case, as observed clinically, are the " extra-pyramidal " hyperkinesias showing marked excitomotor phenomena.

Considered neurologically, I feel it is doubtful whether the symptoms of Parkinsonians and of those showing excito-motor phenomena are not manifestations of a paretic and irritant effect respectively at the same level of the motor arcs ; that is, a high level of the afferent tracts more immediately controlling the neurons of the motor tracts.

Whereas nearly all writers describe these cases separately, yet their cases show gradation from one extreme to the other, and all their cases show a mixture of Parkinsonism and excito-motor phenomena.

A somewhat superficial investigation into some 40 of these cases at the Northern Hospital only serves to bear this out. A selected case that is suggestive is here given :—

CASE IV, M—— O——, ÆT. 14, F.

1923—

Attacked by an acute febrile disease, reliably diagnosed as encephalitis lethargica. There was apparently a good recovery.

November, 1927—

Sequelæ first observed. Patient gradually became drowsy, particularly during the day. She would wake up in the evening and for a short while behave quite normally. Then, however, she would become very restless, and on frequent occasions this would intensify, and she would pass into a condition of almost maniacal excitement—running about the ward and being most difficult to control. She could give no reason for this behaviour, but she could not control herself. This state of affairs reached a crisis about the middle of December when, although the alternation of sleep rhythm persisted with nocturnal excitement, the maniacal outbursts ceased. At no time were true behaviour disorders present.

January, 1928—

Under luminal, normal sleep rhythm was obtained and the patient only occasionally had a restless night. About this time there is a record of slightly increased tonus of the right arm. By June the nocturnal excitement had ceased and luminal was omitted. There were oculo-gyric crises and occasional movements of the left arm as if it were pulling a corkscrew. Otherwise, the right arm exhibited considerable hypertonicity and the left arm less. The patient is still under observation.

This case is remarkable in that it shows a fairly rapid transition from the excito-motor type to a fairly definite Parkinsonism. Many other cases appear to remain stationary, showing a mixture of both types of symptom. I have not, however, seen any case showing a transition from Parkinsonism to excito-motor phenomena, nor one showing any marked excito-motor phenomena over a period of more than 18 months. This is to be expected if the cause is irritation of the neurons.

The observation that the above changes occur with the patient fully aware of them, although they are beyond his control, seems to show that the site of causation is sub-cortical.

The third type of sequelæ are the behaviour disorders.

CASE V, R—— A——, ÆT. 15, F.

March, 1924—

Patient had an attack of an acute febrile disease with fever, diplopia and inversion of sleep rhythm.

October, 1926—

Patient was admitted. She was quarrelsome and violent. She had impulses to fight and to slap anyone who attempted to come near. That her victim might retaliate did not discourage her. She would also break windows and crockery in her outbursts. These alternated with moods of excessive affection, when she would seek to ingratiate herself with the other patients and the nursing staff. She was fully conscious that her behaviour was abnormal and apparently made some effort to control it, but entirely without success. She liked school and was of very high intelligence. There were no physical signs of any description save bouts of tachypnœa lasting a few minutes in the evening.

Four months after admission slight signs of Parkinsonism began to appear, At the same time she lost her energy. The nursing staff also reported some decrease in her abnormal behaviour. Seven months later when I saw her, behaviour disorders were not marked at all and she required little discipline. On the other hand, bradyphemia and Parkinsonian rigidity were marked. The facies were also typical. Three months later there was a very marked Parkinsonian gait; occasional tremors were to be seen in the left arm. Rigidity was pronounced. The behaviour disorders had disappeared.

The analogy between this case and the last is plain. Both show transition from an aberrant and variable state of excitability—in the first case motor and in the second case mental—to a Parkinsonian picture of a fairly uniform type.

A close examination of all the various behaviour disorders seems to show that they have certain aspects in common:—

Firstly, "over-action," for example, polydipsia, polyphagia, violence of emotional reaction.

Secondly, a tendency towards the primitive in behaviour; tearfulness, over-affection, playing with dirt.

Thirdly, an incidence on the appetite qualities of the emotional make-up, without any diminution of intellectual ability.

Fourthly, as in motor phenomena, the patient is fully conscious of these defects and holds them as such, but they are beyond his control.

These aspects suggest the neuro-psychological explanation that they are due to an overaction or distortion of the "affective tone" component of the sensory data, with a corresponding loss of cortical control over them.

This explanation is supported by the fact that the sensations most frequently affected are those that normally have much "affective tone," such as pain, hunger, thirst and, on a higher plane, anger, affection, sexuality; further, it is noticeable that in many cases hypnotic suggestion, which is known to reduce "affective tone," will enable

these overactions to be controlled, temporarily at any rate.

The neurological extension is given by the work of Head and Holmes, who showed that the probable site of co-ordination and distribution of the affective portion of the sensory data is the thalamus.

Two remaining types of case may now be discussed. Both are rarer in their incidence and, as a rule, less disabling to the patient.

The first, the respiratory type, occurs with more or less severity in some 10 per cent. of recorded cases of encephalitis.

CASE II, I— B—, ÆT. 14, F.

This case showed, in addition to other symptoms detailed above, the following phenomena. At variable intervals, usually about 10 minutes, the lower jaw would drop and the patient would exhale slowly and deeply. If the patient did not happen to be aware of this "yawn" it would last about 10 seconds, and then the mouth would close. This was succeeded by a short period of tachypnœa for about 20 seconds. If, on the other hand, she noticed the yawn and tried to stop it, then she could not close her mouth at all, but continued to breathe slowly and deeply—8 respirations in a minute—through the open mouth. This would last for a minute or two and then the mouth would close and a slightly longer period of tachypnœa would ensue before the normal respiration returned.

Case reports of other observers show a wide diversity of these respiratory troubles, which, nevertheless, fall into three fairly well-defined classes—true respiratory troubles such as polypnœa, tachypnœa and all abnormalities of rate and volume; the spasmodic coughs; and the respiratory "tics."

The true respiratory troubles appear to be independent of all other symptoms of the disease and, it seems, can only be considered as lesions in the neighbourhood of the respiratory centres.

The coughs and tics are of more direct bearing on the problem. The coughs do not bring up any sputum, nor are they accompanied by any strengthened respiration. They are often showers of little coughs such as would correspond with a heightened irritability of the sensory nerves to the mucous membranes. But all evidence shows that the encephalitic lesions are central, which seems to show that the basis of the cough is some interference with the reflex arcs concerned. It is possible that this may be due to a "backstroke" action on the part of the thalamic centres.

The tics are more concisely explained by the hypothesis of thalamic incidence outlined above. They are most frequently associated with behaviour disorders in adolescents and are often accompanied by abnormal sensations from the mouth and larynx, such as roughness and a sense of suffocation that are demonstrably subjective, but affect the patient severely. Tics, as Kinneir Wilson has shown, have a basis in the pleasant sensations that they evoke or used to evoke; they are reactions to the affective components of sensations.

The inference that these symptoms are due to a central reinforcement of the affective tone of the sense data from the respiratory tracts is at once suggested, and this supports the general conclusion that the majority of the symptoms are thalamic in origin.

The remaining types of cases are rare, and I have not had an opportunity of seeing one.

Some cases are reported when an undoubted attack of the acute condition has been followed by syndrome closely resembling that of Frolich —the "adiposo-genital" syndrome. They are characterised by an increasing obesity and genital hypoplasia or even atrophy. An American case reports the definite development of female breasts in a boy aged 11. This was accompanied by headaches, blepharospasms and a marked sugar-free polyuria. On exhibition of pituitary and thyroid extracts all these symptoms cleared away, but they returned if the treatment were stopped. The close resemblance of this case to Frolich syndrome, which is itself associated with a tumour in the sub-thalamic region, is a further indication, though slight, that the incidence of the virus is in the circa-thalamic regions.

The analysis that I have attempted of these phenomena of encephalitis lethargica makes it possible to draw some tentative conclusions.

The toxic virus introduced into the thalamic region acts as an acute toxic agent, the effect of which resolves in three ways—eradication of the toxin before any damage is done, in which unlikely event a complete recovery ensues; eradication after damage has been done with the permanent paretic effect on the thalamic centres that results in the motor disability and loss of reaction to affective tone of the typical Parkinsonian; and, lastly, persistence of the toxin leading to a manifestation of its irritant effects in the sequelæ :—the excito-motor phenomena and behaviour disorders with a gradual change to Parkinsonism as the toxin is eradicated and the paretic effect becomes manifest.

Many therapeutic measures have been proposed, some of which have definitely a palliative effect, but, at the moment, no reliable therapy exists.

During the acute stage the measures such as bed and diet that are ordinarily employed in any acute febrile disease, should be used. To combat particular symptoms appropriate symptomatic remedies are available, such as full doses of the narcotics for insomnia, atropin for the sialorrhœa.

Among the early therapeutic suggestions, mostly empirical, were fixation abscesses and simple serum therapy, but little success was obtained. At present hexamine as an internal antiseptic is being used, but, again, the results are unsatisfactory. It is prescribed in large doses—300 gr. per diem—with alkalies to prevent irritation of the urinary passages. It is suggested that the hexamine is excreted into the cerebro-spinal fluid in sufficient concentration to exert an antiseptic effect. Freeman has suggested salicylates in large doses, and he has, apparently, had some success with this therapy.

Considerable control over the behaviour disorders, both during the acute stage and those of the sequelæ, can be obtained by light hypnosis, but the effect is purely temporary.

Various bacterial sera and proteins have been employed for nearly all the manifestations of the disease, and in some cases protein-therapy has been shown to be of value, for example, intramuscular injections of milk as a hypnotic. Probably the effect of sera, such as the neurotropic streptococcal serum of Rosenow, is also due to the proteins present, for it seems certain that the causal agent is not a bacterium. These measures are only palliative and are also very irregular in their benefit.

Blood transfusions from persons considered to be immune have been tried, but results are scanty and contradictory. Wimmer has used a silver salt, argotropin, but no reports are available as yet.

Of value in the treatment of the sequelæ is hyoscine and its derivatives, such as genascopolamine. These drugs moderate the Parkinsonism considerably and improve the general condition of the patient. A tolerance of the drug is, however, soon acquired, and it becomes necessary to increase the doses of the drug, which leads to digestive symptoms. The Parkinsonism returns just as severely when the hyoscine is stopped. Heat, radiotherapy and diathermy palliate the neuralgias met with in this stage.

Superinfection with the spirochæta Duttoniensis, employing the technique used in the malarial superinfections for dementia paralytica, has met with a few doubtful successes.

Although this list of partially successful palliative measures might be extended considerably, yet the conclusion must be that there exists no satisfactory therapy and only a few palliatives.

There are two lines of enquiry—the bacteriological and the neurological; the first essentially curative and the second mainly palliative.

The virus is known to be harboured in the nasopharynx. To prevent continuance of absorption in the subject and to protect those exposed to the disease, nasal and oral disinfection is indicated. Potassium permanganate is found to kill the virus in high dilutions, and it is suitable for this purpose. The work of Perdreau has shown that the virus has an "immunology," and it is probable tha the extinction of the established virus will depen on these properties. The solution will not, howeve be obtained until the virus has been more strictl isolated, and in the meantime the possibilities o a specific chemo-therapy cannot be ignored. Wimmer has researched into this aspect, and I have referred to his use of argotropin above. This method again waits on fuller bacteriological information.

Acute encephalitis is now somewhat rare and the sequelæ call for urgent attention.

I showed above in a general way that the sequelæ may be considered variously as an irritant and a paretic effect on the basal ganglia and the adjacent brain structures. There are, then, two aspects to consider in the therapy.

To protect the victim against chronic thalamic hyper-activity some thalamic depressant must be found. The general cerebral depressants at present available, such as luminal, are not sufficiently specific in their action, and the excessively large doses which are necessary, produce other unpleasant effects. No specific drug is known at present, but it is of interest that the victims of chronic manganese poisoning suffer from a syndrome somewhat characteristic of thalamic depression. Unfortunately, chronic manganese poisoning is very chronic, and can only be developed in a period of years.

Alleviation of the paretic affect presents a more complicated problem. There is no doubt that the end result of the action of the virus is destruction of the affected neurons, and these cannot be replaced. On anatomical grounds it is unlikely that other neurons could be found capable of being "educated" to replace those affected, for these seem to partake of the nature of long paths and are not the short, dispensable, association neurons.

The solution must lie in some method of inhibiting the centres responsible for the symptoms of Parkinsonism, probably the medullary centres and the sub-cortical reflex systems. Hyoscine has shown itself to be the type of drug required for this purpose, and it is not too much to hope that it may be bettered. While this is not a cure of

post-encephalitic Parkinsonism, yet this drug and its derivatives have proved of immense value in the palliative treatment of the symptoms of Parkinsonism, and it must be remembered that in this as in other diseases the immediate duty is to relieve the patient of his symptoms, if by doing so the ultimate prognosis is not endangered.

Finally, institutional care is clearly necessary for many post-encephalitics, but the experience of the Metropolitan Asylums Board in this direction does not suggest that such care, with its attendant healthy life, gymnastics, graded occupations and similar activities, has been productive of any therapeutic results.

A detailed neurological study of the symptoms presented by encephalitis lethargica would throw much light upon the site of incidence of the virus and might provide a means of detailed symptomatic treatment. The therapeusis of disease has, however, shown a progress from all the symptomatic to the curative, and, particularly in epidemic diseases, from the curative to the prophylactic. That this progress may occur in encephalitis lethargica the broader principles of its ætiology and progress must first be established.

Since available material is limited, such "principles" are necessarily of the "arm-chair" variety, and before acceptance they must be consistent with the large mass of clinical experiences of other observers.

It is accepted that encephalitis lethargica is a virus disease of epidemic occurrence, with an incidence on the brain stem, nearly always the thalamic region.

I have suggested that the symptoms of the acute stage are due to the toxic effect of the virus, while the sequelæ are caused by either the residual irritant effect or a paretic effect upon certain neurons, or by both in conjunction.

From these conclusions it has been possible to indicate that effectual palliative and curative chemotherapeutic treatment may be found.

Perdreau has shown that the virus possesses an immunology, though at present it is not completely understood, and this provides hope of a more efficient curative treatment and, perhaps, of prophylaxis should there be a recurrence of the epidemic. But the discovery of salvarsan lagged 15 years after the isolation of the spirochæte, while even now the immunology is hardly understood—the first recorded case of encephalitis lethargica was but 12 years ago, and it must be admitted that considerable progress has been made in the treatment of this disease.

It affords a most pressing problem in medicine, for few diseases have such chronic, incapacitating and offensive, though not usually fatal, sequelæ.

More urgent still perhaps is some form of either prophylaxis or early eradication of the virus, for the possibility of a severe recurrence of the epidemic encephalitis is always present; a recurrence which would, at the moment, lead to a widespread and most distressing series of cases.

"No Flowers"

A SURGEON

WHAT'S that? I can't explore? It's simple folly!
Come, come, St. Peter, this exasperates;
Get out your keys and open to me. Golly!
I've opened more abdomens than you gates.
I never was the kind of man that waits.
Howevah, you can't know—I'm DAVIES-COLLEY!

A SUPERINTENDENT

POOR SUPER! His mournful story
Brings tears to the eyes to tell.
He ought to have gone to glory—
But there's smoking allowed in Hell.

A PHYSICIAN

WHEN Judgement Day arrives HURST won't appear,
For though the Last Trump sound, he'll never hear.

A PHARMACOLOGIST

IN life he was made MUTCH of.
They say he was MUTCH married.
Great knowledge he'd a touch of,
But now he lies MUTCH buried.

A BACTERIOLOGIST

FEW to JOHN EYRE'S distinction have attained.
He was much cultivated—but unstained.

A BIOLOGIST

I, EVANS, studied worms, that I might learn Biology.
The worms have now six feet in which to turn
And study me.

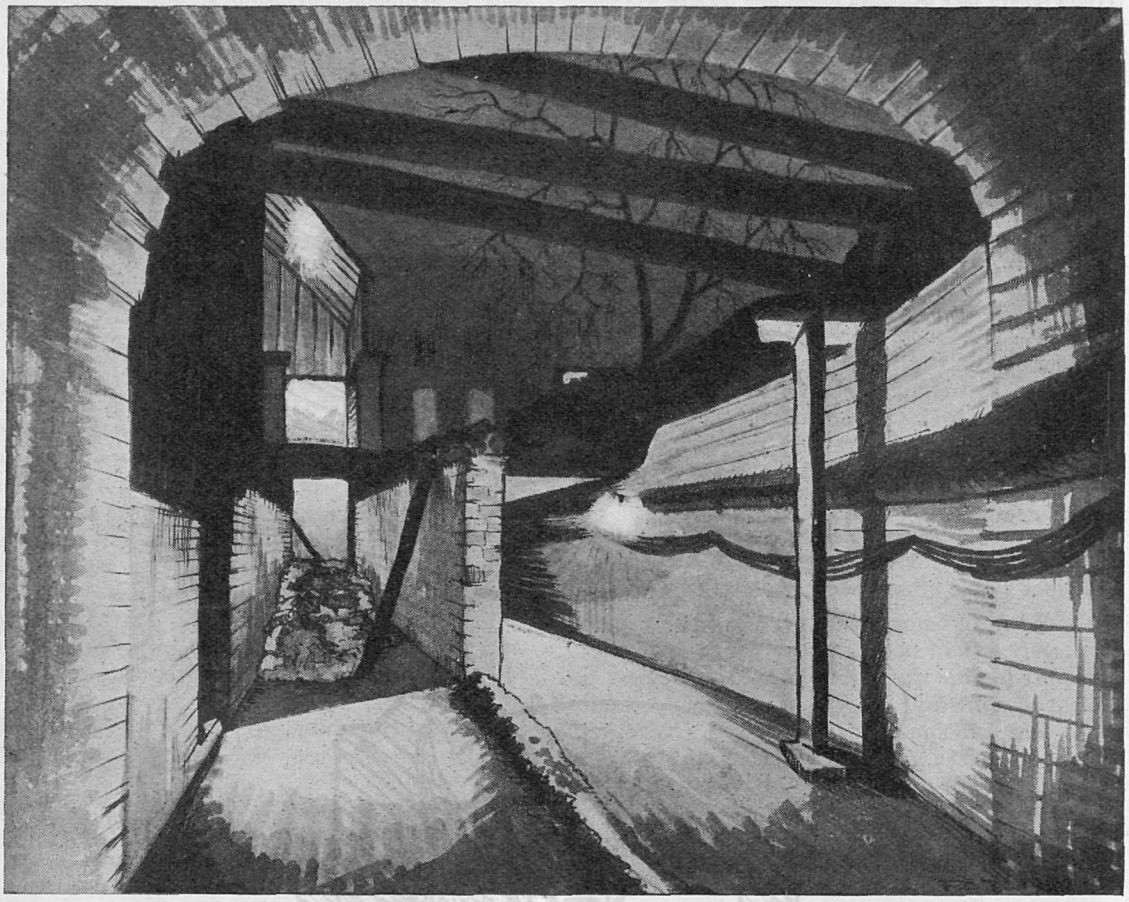
DOGSBODY

"Physical" Impossibilities

II.—THE "PRES. RES."

"With things important to be said
He's happier standing on his head."

Nocturne 1929



Drawn by F.C.T.

"How long, O Lord, how long?"

Books for the Spare Moment

GENERAL PRACTICE

Medical Adventure Some Experiences of a General Practitioner. By ERNEST WARD, M.D., F.R.C.S. Published by Messrs. John Bale, Sons & Danielsson, Ltd. *Price* 8*s.* 6*d. net.*

TO the majority of medical mariners the high seas of general practice are apt to prove unexpectedly dull. But even a short voyage with Ernest Ward on the most familiar clinical water soon has adventure bubbling in the wake, while the treacherous currents of some unexplored legal channel or the sudden lesson of obstetric rough weather provide every excitement that could be desired. At times, perhaps, the ship is adrift in diagnosis or nearly a total loss on unexpected complications, but dull—never.

This book, then, lives up to its title. There is much of the real stuff of adventure in this collection of papers, case histories and records of the daily successes and failures of a general practitioner. No matter whether he relates the story of the doctor whose misplaced cheerfulness at a post-mortem was overheard and actively resented by the relatives, or describes the technique of a questionable surgical procedure termed "sponge eduction," interest never flags. The tales told

are good and mostly against the author. He describes how, on opening the paper one morning, the headline "HOSPITAL SCANDAL—DYING CHILD SENT AWAY" met his eye, and *vaguely wondering*, he says, *what Guy's had been doing*, he read further only to discover the delinquent to be none other than himself.

Exanthemis of unusual type and the strange obstetric problems that are apt to crop up suddenly in general practice and leave such a vivid impression afterwards figure prominently, while there are also excellent contributions on such subjects as minor tuberculosis and the infant tonsil. The lesson of a case history, when given, is always clear and success is never ascribed to the development of clinical intuition, that ethereal mantle of wisdom so often worn by the mellowing practitioner.

The concluding chapter, a subjective study of post-influenzal encephalitis, has a dramatic force and a sincerity that more than excite the reader's concern for the author, who is himself affected. The closing words of this book are characteristic of the gallant attitude that has enabled the author to carry on so successfully in spite of grave physical disability: "Life is a game and its chief art to turn adversity to good account."

Gleanings from General Practice. By DAVID TINDAL, M.D. Published by Messrs. Baillière, Tindall & Cox. *Price* 6*s*.

LONG years of general practice often give a man a breadth of outlook, a mellowness of judgment, a humour and kindliness of observation that make the name of a doctor still one of the most honoured. Therefore when such a man takes to literature one's appetite is whetted by pleasant anticipations. Dr. Tindal disappoints our anticipations, but disarms us by the modesty of his preface.

His book is a series of rather rough notes on treatment, a subject about which the G.P. has perhaps most to teach us. But the subject matter is often commonplace, sometimes debateable and only occasionally really useful. We are faintly amused to be warned of the danger of leaving the gas on when there is no shilling in the slot; we are horrified when advised to treat gall-stones with raw eggs. Why not raw cholesterin? And there are many questions we might ask: Why must one not give arsenic in cold weather? What *is* "rheumatic appendicitis"?

Dr. Tindal gives us some pretty examples of the now despised art of prescribing, but there are too many unnecessary recipes. For instance, prescriptions 187 and 189, for corns, are identical in constituents and almost so in their proportions. Extract of hyoscyamus is omitted from the recipe for "Guy's Pill."

The genial humour which, no doubt, informs the author fails to shine through his writings, and a poor substitute are the numerous familiar tags, all irritatingly supplied complete with sources. But these "unostentatious paragraphs" are offered in a kindly spirit to a young and critical generation, and though we may feel that the benefits of years of experience are well-nigh incommunicable, it would be churlish not to accept what we can of the proffered fruits of the labours of a tried G.P.

A NEW ENTENTE

Aspects of Age, Life and Disease. By Sir HUMPHREY ROLLESTON, Bart., K.C.B., M.D., Regius Professor of Physic in the University of Cambridge. Published by Messrs. Kegan Paul, Ltd. *Price* 10*s*. 6*d*. *net*.

THE books which form this new Anglo-French Library of Medical and Biological Science come from the pens of well known English and French writers on scientific subjects, and are published simultaneously in both languages under the joint editorship of Dr. F. G. Crookshank (London) and Professor René Cruchet (Bordeaux). Sir Humphrey Rolleston contributes the eighth volume to this series, and his book practically consists of papers previously published in various journals, to which collection a few alterations and additions have been made.

When, with the easy style of the practised essayist, an author can turn lazily from old age to tobacco, deliver a polished dissertation on holidays, touch lightly on the picaresque aspect of quackery and follow up with serious historical criticism the reader is indeed fortunate; Sir Humphrey achieves all this with a degree of sagacious urbanity that invariably interests and never irritates. The medical flavouring is at no time more than a strong and very suitable sauce to the literary meal, except perhaps in the case of Samuel Johnson, where the author permits himself a somewhat unwarranted degree of speculation as to the nature of the great lexicographer's personal ailments, and thereby nearly ruins an excellent essay.

A volume for arm-chair reading that is altogether worth while.

Epidemiology, Old and New. By Sir WILLIAM HAMER, M.D., F.R.C.P. Published by Messrs. Kegan Paul, Ltd. *Price*

THIS book might easily have been entitled "Influenza, Old and New," as its theme and purpose is to show that influenza is a protean disease which tends to repeat its history in cycles. These cycles consist not only of waves of varying

prevalence, but also—to use an analogy from chemistry—of recurring sequences of allotropic modifications, encephalitis lethargica—no new disease—being one of them. The subject matter is principally drawn from Sydenham, whose works the author appears to know by heart, and Ministry of Health documents. Thus far we follow the author with much interest and one is almost persuaded of his accuracy. When he goes further and regards many other infectious diseases, including cerebro-spinal fever and even plague, as related diseases, talking airily of their bacteria as secondary invaders, we are less impressed. We find the method of wholesale quotation interesting rather than convincing, and sometimes tiresome. The book is not lucid and is unnecessarily prolix and redundant. An interesting subject and an interesting book in spite of its faults in our eyes.

A NOVEL

Crisis. By CLAUDE HOUGHTON. Published by Messrs. Thornton Butterworth. *Price* 7*s.* 6*d.*

THE author of this novel has chosen the ancient theme of a man whose physician gives him—mistakenly, of course—a few months to live. The situation is a great one, but here its possibilities are incompletely realised; it is earnestly treated, with vigour and a fair sense of character, but without verbal felicity. From the medical point of view the hero's shadowy heart trouble and his father-in-law's delusional insanity are unconvincing.

Though improbable, the story holds the attention, but it is to be hoped that one day a courageous novelist will allow a poor specialist to give an accurate prognosis.

HISTORY

A Short History of Medicine. By CHARLES SINGER M.A., M.D. 1st Edition. Published by Messrs. Humphrey Milford, at the Oxford University Press. *Price* 7*s.* 6*d. net.*

THE author of this excellent book needs no introduction, his work on medical history being particularly well known. In this book he has a doubly difficult task, that of writing a comprehensive history of medicine from the Hippocratic era up to modern times and, at the same time, of making the subject interesting to laymen. Ambitious as this task is, he has succeeded in producing a book which must appeal to anyone interested in the subject. On account of the enormous mass of historical fact it must naturally be very compressed—the book is not a large one, containing only 362 pages of subject matter—and this seems to us to be the only fault in the book. We cannot help feeling that something rather less short and more discursive would have been more welcome. However, it is our job to criticise the book written and not suggest that a different one should have been written in its place.

After the author has in his preface ranked himself firmly among the "vitalists," he goes on to discuss the medicine of Ancient Greece up to about 300 B.C., being mainly concerned with the teachings of Hippocrates and Aristotle. This is one of the most interesting sections in the book and it is unfortunate that it is also the shortest. The next section is called the Heirs of Greece, and includes the Alexandrian School, Celsus and Galen, and brings us up to the Middle Ages, which are wisely—in a book of this size—compressed into 20 pages. In the Renaissance section—1500–1700—we get the first mention of eminent Englishmen, Harvey and Sydenham, and here is included an outline of the three main theories of life—the mechanical (Descartes, Borelli and Diderot), the chemical (Sylvius), and the vitalistic (Stahl). The next century—1700–1800—Dr. Singer calls the Period of Consolidation, and by this, we suppose, he means the laying of the foundations of modern medicine, for he goes on, in the next section, to a Period of Scientific Subdivision, which brings us up to the beginning of this century.

While applauding the orderly arrangement of the book and the extremely clear picture of over 2,000 years of medical progress, we miss the lack of information about the great personalities shown, very briefly, to us, and regret that we can only get fleeting glimpses of them—no more than a name, a date and a point of view. We trust that Dr. Singer will give us what we want in another book one day.

The volume is excellently printed on very good paper, is handy in shape and size, is moderate in price and contains some extremely good illustrations.

A NEW "OUTLINE"

The Science of Life. By JULIAN HUXLEY, H. G. WELLS and G. P. WELLS. Part I. *Price* 1*s.* 3*d.*

THIS is no volume of æsthetics, but an outline of biology in its widest sense, with zoology, physiology, comparative anatomy and a few other odd subjects of like nature all rolled into 30 neat fortnightly pills. One of the three authors previously purveyed the world's history in a like manner, and with no little success. Father, son and holy spirit in the shape of Huxley now unite in a hot gospelling trinity and dispense similar dollops of popular science to a heathen laity.

The first pill has an attractive pictorial coating of modern microscope—oil immersion and mechanical stage, obviously Zeiss of best quality—and a pleasant vehicle in the prose of Mr. Wells senior.

The ingredients are well known to the average medical man. He acquired a tolerant familiarity with their mental purgation in his first year, and now must needs resort to more violent cathartics than something for which the formula might well be :—

R/ Chromosome theory .... 1 grs
Human anatomy .... 10 ,,
Physico-chemical analogy ..... 10 ,,
H. G. Wells .... q.s.
Fiat pil.

Sig—One pill to be taken fortnightly with a grain of salt.

Impression Taking and Materials

A Paper read before the Dental Society by D. S. CLOGG, Esq., L.D.S.

MR. PRESIDENT AND GENTLEMEN,—The first essentials to perfect mechanical work, either of a prosthetic or conservative nature, is to secure a good impression.

I propose this evening to divide my subject as follows :—

(1) An introduction dealing with the principles of retention of dentures.

(2) The materials used—namely, wax, composition, plaster and dentocoll, their nature and application, including a mention of inlays and crowns.

Before taking an impression of the mouth, things to observe are :—

(1) Remaining teeth and roots ;
(2) Shapes of the arches and vaults ;
(3) Sizes of maxillary and mandibular surface ;
(4) Extent and condition of alveolar processes ;
(5) Muscular attachment and glandular tissue ;
(6) Mucous and sub-mucous tissues ;
(7) Fluids in the mouth.

After the removal of all septic roots and calculus, it is important to pay attention to the median maxillary raphé. Usually, this is little more than a slight ridge or fold of mucosa ; however, it may develop to the extent of an obstructive osseous tumour known as *torus palatinus*. This osseous enlargement must either be avoided entirely by the denture or covered altogether by extending the base plate and the necessary relief provided.

The size of the maxilla and mandible is of importance, since other conditions, such as shape, soft tissue and fluids of the mouth, being equal, the amount of retention will be in ratio to the flat surfaces covered.

Of the types of ridges, the broad and hard ridge is considered the most favourable for good retention, and the knife edge ridge is a continual source of annoyance, as the base plate must not be permitted to rest on it. Nodules on any surface of the ridges must be either avoided altogether or entirely covered and relieved.

Muscle attachments and fræni should be noted and allowed plenty of freedom.

Mucous membrane covers the entire surface of the mouth, but the sub-mucous tissue underlying it varies in amount very considerably in different situations and in different mouths. The case having a firm mucous membrane underlaid evenly by a moderate amount of submucous tissue is the most favourable for retention and comfort.

The fluids of the mouth, consisting of a mixture of saliva and mucous secretions, may be moderate or excessive in amount, thin, thick or ropy. The thin watery fluid in moderate amount is the most likely to help good retention, as the thick secretion prevents close adaptation necessary for the best results.

All these factors play an important role in the retention of dentures of any kind and should be borne in mind when deciding what kind of impression to take.

An impression is a negative likeness of an object or part taken in a plastic material from which a cast or positive likeness may be produced.

An impression is not necessarily an exact negative likeness, but it must be perfect in its suitability for the work required. The soft tissues are the factors that create the variableness of impressions. Rarely is an impression perfect for its intended use unless the soft tissues are to a greater or lesser extent distorted.

There are two classes of material used for taking impressions :—

(1) Those substances made pliable by heat and harden by cooling, such as wax, composition, guttapercha and dentocoll.

(2) Materials made plastic with water and that harden by crystallisation, such as plaster.

Wax used for dental purposes is either beeswax or paraffin wax, a by-product of the distillation of coal and petroleum. Wax alone for impressions is seldom used nowadays, but I will mention two instances where it is very serviceable. When making an addition of one or more teeth to a denture a little pink wax is softened and pressed into the gap in the denture and the patient instructed to close. This gives a good impression

of the gum as well as the occluding teeth at the same time. I also consider that pink wax is quite the best material for taking the so-called squash bite when employing the indirect method for gold inlay work or other conservative work of a similar nature when occlusion must be taken into account.

Wax seems to be much more workable than composition for this purpose, and when the teeth are brought into the correct occlusion and the wax cooled, the squash bite may be removed easily and does not seem to become distorted so readily as composition. The slight elasticity of wax when so employed readily enables one to replace the amalgam or osteo model of the cavity or root, so that when cast it gives an accurate model in correct relationship to its surroundings, as in the mouth.

Modelling compound, of which there are many varieties, is a composition of a resinous gum with stearin and French chalk, coloured and flavoured.

An efficient composition for impression purposes should possess the following characteristics :—

(1) Should soften at a temperature higher than that of the mouth ;

(2) Should possess great plasticity ;

(3) Uniform stoutness and should give a sharp impression ;

(4) Should not stick ;

(5) Should harden quickly in the mouth ;

(6) Should not contract nor expand on complete cooling.

Composition is softened in hot water at about 150° F. and must be very thoroughly kneaded in the fingers.

The ordinary impression in composition is a thing that is done so frequently and with such comparatively satisfactory results by everybody that I do not intend to go into it at all, but I propose describing a more elaborate technique for taking impressions for full upper cases which, when completed, ensures a very well fitting and retentive denture.

Having procured a good model of the case with an ordinary tray, this model is marked with pencil to show the outline of the plate. To this a thin sheet of composition rather less than 1/8th inch in thickness is shaped and cut and then covered almost to the edge with rigid base plate material and the two sheets stuck together by heat. Over the front of the ridge is next built up a block of composition and attached by heat, and this is used as a handle to insert the impression form in the mouth. Carefully dry the surface of composition and soften with alcohol flame and mouth blow pipe until fairly liquid, dip momentarily into water at 150° F., and quickly insert into mouth and press home with steady pressure of 5 lbs. for about three seconds. The pressure may then be relaxed but, still holding the form lightly in place until the material is rigid, when the patient should be instructed to blow the impression down by shutting his lips and distending the cheeks. Place impression in a basin of cold water immediately—not under cold water tap—until quite hard.

It is most important during this and the following operations to heat the *dried surface* and yet not to burn it, remembering that stearine has a fusing point of about 125° F., and if the flame plays too long on one spot the stearine will be burnt and form a rough surface, then to temper it by immersing in water at 150° F., to keep up pressure for three seconds only, and when rigid to place into cold water at once before examining.

As the amount of pressure carried to the tissues depends on the fluidity of the compounds, the pressure must only be applied *when the compound is in a fluid state.* It is a fixed law that pressure on a confined liquid is transmitted equally in all directions, thus the pressure applied to the ridges will be uniform, but must not be continued after the compound has lost its fluidity—that is, for not more than three seconds. Modelling compounds can be fluid, mouldable, pliable or rigid. Work it only when it is fluid, handle it and test it only when it is rigid.

The basic impression having been obtained as directed and chilled, it is now transferred to the mouth and subjected to pressure over the ridges to prove ridge stability. If not correct, small additions of composition must be made, the surface reheated and the process repeated until steadiness is procured. Next dry the periphery of the impression form corresponding to the position of the six front teeth, heat in the blowpipe flame, dip into water at 150° F. and quickly insert in mouth ; at the same time, with the finger and thumb of the left hand, pull the upper lip downwards and to left and right sides alternately so as to leave the frænum free and to determine the height of the denture in front ; wait until rigid, remove and plunge in cold water. Upon insertion in the mouth this should now resist a considerable downward pull, if not find where the leakage is and add small strips of composition and repeat process until satisfactory. Then follow the same routine for the left side of the periphery, drying, heating, distending cheek with the finger and cooling, and then repeat on the right side. This seals all the edges and leaves the basic impression muscle free except posteriorly. Now instruct the patient to open widely and say " Ah ! " several times and with an indelible pencil mark the beginning of the soft palate in the mouth, insert the impression form and this mark will be transferred to the surface of the composition which must then be trimmed to it with a sharp warm knife. The next

operation is called post-damming, and is as follows. A very small layer of composition or of soft black wax is added to the upper surface posteriorly, heated as before, inserted and held in the mouth and the patient quickly instructed to swallow, so as to produce movement of the muscles ; wait until rigid before the patient blows it down and then cool it at once. This impression form may be relieved for hard areas by scraping away the surface as much as is necessary, or the resulting model may be relieved by thicknesses of soft metal. It is important in casting the impression that the plaster shall be brought well over the edges everywhere, as the finished plate must have exactly the same shape and outline as the composition impression form, and the edges of the plate must not be polished away in the finishing process.

A very similar technique may be used in the case of edentulous lower impressions, but after getting the basic impression the periphery must be corrected in six sections, namely, buccal anteriorly and then right and left sides, and the lingual anteriorly followed by the right and left sides.

The next material is plaster of Paris. This is the material which comes nearest to being suitable for every kind of impression ; in fact, many practitioners claim that they never use anything else.

The recent work of the late Dr. Sodeau and Professor Gibson of this Hospital has put plaster in a very much higher place than before, as by mixing correctly according to their formula we are able to eliminate both expansion and contraction. The amount of error which creeps in, due to the expansion of plaster, is not always realised. A simple linear enlargement would not be of such great importance, but it is the distortion produced in curved surfaces—for example, the vault of the palate, which spoils the fit of the plate. Many methods were tried in order to overcome this expansion nuisance, such as having a well fitting special tray, or the filling of a composition impression with a plaster wash, the idea of these being to use as thin a layer of plaster as possible, so aiming at an even variation in all places, again forgetting that the linear expansion would occur whether the plaster was thick or thin.

This investigation on dental plaster by Dr. Sodeau and Professor Gibson, which was fully reported in the *British Dental Journal* of September, 1927, tells us that plaster is a complex and variable mixture, the nature of which is still imperfectly known. It consists mainly of calcium sulphate hemihydrate, that is, calcium sulphate, with only half the full water of crystallisation, but contains various forms of anhydrite in addition to the dihydrate or gypsum. Its mixture with water is regarded, roughly, as the reversal of the process of manufacture—namely, heating gypsum to drive off a large part of its water. Dental plaster mixed to the consistency of thick cream gives a linear expansion of 0.3 per cent., which is increased to 1 per cent. if much stirring is done. The addition of a potassium salt is found to diminish this expansion to negligible proportions even when the mix is well stirred. These potassium salts, of which potassium sulphate is a 4 per cent. solution, is the best, accelerate the setting so that a control such as borax in varying quantities for different rates of setting is used.

As a colouring material a dye stuff that completely colours the mass without staining the model is required, and a dye of the madder group known as Alizarin S. used in a .04 per cent. solution was found quite satisfactory.

The solution for mixing with the plaster is made up as follows : Water 100 parts, potassium sulphate 4 parts, Alizarin S. .04 parts, and for slow, medium and rapid setting borax in the proportion of 0.8, 0.6, 0.4 parts respectively is used. These figures give the solutions known as AE6, AE7, AE8.

To get the correct mix the plaster and solution is now measured to the proportion of 100 of plaster to 60 of solution by means of the cream cups holding 50 grams of plaster and a graduated measure giving 30 c.c.s of solution. The plaster is poured gently on to the surface of the liquid, spread out and left for the whole to become wetted, when it may be stirred to a smooth cream. " Aged " plaster must always be used.

It is rarely necessary to use a special tray, one of the standard trays made of thin metal in many anatomical shapes which can be bent or adapted as required answers for nearly all cases, and all the advantages of maximum extension for retention, including so-called muscle-trimming and post-damming as well as the necessary compression round the periphery, can be combined with fine detail if reinforcement of the tray with soft wax is made where required. The reinforcement of the tray is done by adapting a roll of pink wax to the edge of the tray, thoroughly softening the wax and pressing home in the mouth. The edge of the tray must previously have been trimmed back so that it does not impinge on the fræni or muscles. The reinforced tray is filled with the plaster mix and arranged so that the centre of the palate will be touched first, the back of the tray is put into position, then, with a slight rotatory movement, carried right home with a firm pressure directed slightly forwards. All excess plaster will be forced out in the front, where it may be removed without causing discomfort to the patient. The wax reinforcement is particularly of service in lower impressions in aiding the passage

of the plaster between the tongue and the alveolar ridge in the molar region. The wax is adapted to shape by a single insertion when soft and the tongue pushed up firmly against the palate, the buccal periphery being cleared by lifting the cheek and lips with the fingers. Cases in which there is flabby gum on the ridges may be compressed in the same way by arranging wax to bear upon the flabby tissues, while the hard tissues have very little pressure, simply that applied by the plaster. In partial cases this wax reinforcement of standard box trays is very useful. The periphery is not reinforced except along the posterior border, but if wax walls are built in the tray leaving a space of 1/8th of an inch around the standing teeth better adaptation will be obtained, in addition to greater ease in removing the impression from the plaster cast. In partial lowers, as in full cases, the lingual flange should be reinforced or the folds of soft tissue on the mylo-hyoid ridge may be troublesome. Close adaptation of the denture in the lower lingual region is very important, otherwise food may get under the edge and cause irritation. It is equally important to avoid undue pressure in this region, as patients are less able to tolerate it here than anywhere. Absolute adaptation is all that is required.

Before leaving partial cases there are two points to be mentioned in the use of plaster. When isolated long teeth are present they may be surrounded with a layer of pink wax before inserting plaster in the mouth, and then the wax is removed and replaced in the impression and no uncomfortable strain is thrown upon the teeth in removal either from the mouth or from the models. When dovetail-shaped spaces are left between teeth a wax core may be made and withdrawn sideways and replaced in the impression later.

Time does not permit me to go into further uses for plaster as an impression material, as, for instance, for facial masks, except to say that rubber breathing tubes are inserted in the nostrils and all hair such as eye-lashes, moustaches, etc., is thoroughly vaselined.

Plaster is the material definitely indicated for impressions for crown and bridge work on account of its freedom from distortion by dragging.

Having dealt with the better known impression materials I now come to dentocoll, a newer production, one disadvantage of it being the necessity of using the special syringe for boiling up the materials to the required consistency.

The little experience that I have had with dentocoll has shown me that remarkable detail can be obtained with these impressions, and I have heard many times that dentures made to these fit exceedingly well.

Dentocoll seems to me to possess several distinct advantages over plaster. First of all it is more pleasant for the patient, particularly when it comes to removal from the mouth. It is suitable equally for mouths containing thin watery fluids or the thick and ropy. It saves the mechanic endless time after casting, and it can be removed from the model simply by pulling, although I have broken off teeth that way sometimes. It is advocated that a duplicate model may be cast at once, but unless precautions have been taken to prevent drying it will be found that a lot of shrinkage and cracking have taken place.

The reproduction of all undercuts is the aim of the ideal dentocoll impression; this is not always achieved, neither is it necessary—the least one can say is that no drag or rubbing of important parts, such as the contours of the teeth, ever occurs. Small pieces may break away between the necks of the teeth, but the line is so sharp that the necessary trimming is very easily done.

The material in working condition is soft and elastic, having a gelatinous base. It never drags, but would rather break. When handled according to the directions experiments have shown that it neither expands nor contracts. It is most important that water shall not evaporate from dentocoll, so the impression must either be cast at once or must be kept in a hygrophor or moisture-saturated compartment. It is very easy to follow the manufacturer's instructions as to boiling the material in the special syringe provided and working the perforated plunger up and down until the desired consistency is reached. Perforated box trays are provided in the outfit, but as the need for a dentocoll impression is generally felt most in the mouth of unusual shape, it will be found advantageous to make a special perforated tray for each case as follows. Make a wax pattern the exact size of the required tray, but not adapted too closely to the model, and in the wax punch large holes at least 1/8th of an inch in diameter. Invest the wax and handle in a mix of plaster and sand, equal parts, leaving only one opening, boil out wax and dry thoroughly in the oven. When cool enough to touch with the hand it is ready for pouring, and it will be found that the holes are quite intact.

The dentocoll is worked well into the perforations in the tray and the top surface is well vaselined. The mouth is rinsed with cold water before inserting the impression, and whilst the impression is in the mouth the tray is syringed with cold water for three minutes, necessitating the use of a saliva ejector. Do not remove the impression entirely by means of the handle, but loosen the

sides by inserting a finger of each hand under the cheek.

Pieces of dentocoll may be used again if a teaspoonful of water is added to each syringeful before boiling, and as boiling does not impair the material one may be sure of complete sterilisation.

At the present time many large gold inlays are done by the indirect method, so that a few words on taking the necessary impressions should come under the heading of this paper.

Many of us, no doubt, have tried this indirect method once or twice and found it difficult and more troublesome than taking the wax matrix directly in the mouth, but if an impression can be given to a mechanic who will make from it a well-fitting inlay ready to be cemented into place, surely it will prove a great saving of time.

The first essential is a perfect impression of the tooth and cavity, which is taken by means of a ring and composition. Either copper or nickel seamless bands are now on the market and are excellent for the purpose. Absolute thinness of the ring is not essential, but it is bent to fit the tooth fairly well and trimmed away to allow of its passage between the teeth and not to impinge on the gum. Having wiped out the cavity with oil the ring is filled with softened composition, warmed over the flame and pressed home. Allow it to stay without moving for half a minute and then chill with cold water until quite hard. To remove the impression grasp the ring firmly between the finger and thumb and pull off sharply, never easing it from side to side as one is apt to do without thinking. Much difficulty in taking the impression will be avoided if special care is given to the cavity preparation by removing anything approaching an undercut : in fact, the buccal and lingual walls which have been cut back from the interstitial danger area should not be too vertical, but tend to slope as much as possible away from the cervical edge, which, if bevelled, will come out very well in this kind of impression.

A material in some ways superior to Kerr's composition for these impressions is dental lac, which takes a sharp impression and is brittle, like sealing wax, when hard, so avoiding the tendency to drag.

The impression of the tooth is then cast in amalgam, leaving a conical base, the amalgam being rather plastic and rammed in a little at a time with very firm pressure. A wax squash bite is now taken and after removing the compo. the amalgam model is replaced in the wax squash, the conical exposed end is well greased and the model cast in plaster. When set the overbite is cast in the usual way. The amalgam model is now ready for making the wax matrix, which may be flowed on in the molten condition and trimmed up to contour. Experiments have shown that when wax is pressed into a cavity with force it expands again in the course of a few hours, which is one reason for flowing on the wax and also investing at once.

I have here some of the rings used in this impression work, also a set of Roach's trays with a handle, which is very useful for posterior teeth that are difficult to reach with the fingers. The handle is split at one end and it is fitted to the tray by inserting the part farthest from the shank into the hole first, then compressing the split and clicking in the back part. Its removal is simply done by lifting the handle and holding the tray firmly.

For simple cervical and occlusal cavities these trays, devised by Mr. Dowsett, will be found very useful for conveying the impression materials.

This impression technique which I have just described is exactly the same as would be used for porcelain jacket crowns when osteo is often used for the model instead of amalgam. The one advantage of amalgam over osteo in gold work is that the inlay may be swaged in the press to drive it absolutely home.

In conclusion, a tip that aids one's own patience and reassuring persuasiveness with the subject who invariably endeavours to vomit during the taking of an upper impression, a 2 per cent. solution of carbolic acid used vigorously as a mouth wash and gargle imparts that tingling, possibly analgæsic, effect for a sufficiently long time to insert the impression. Failing this, a 2 grain pellet of cocaine moistened in about 1 c.c. of water and applied to the soft palate or other sensitive area on cotton wool produces sound anæsthesia superficially. Novocain will not do this unless injected hypodermically.

I hope that I have not bored you too much on a subject about which you all know so much, but I am looking forward to learning much from the discussion.

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Correspondence

Stone in the Kidney

To the Editor of the GAZETTE

SIR,—When at Guy's last summer I met Mr. A. R. Thompson in the Colonnade and after the greetings usual between two men who had often tramped that somewhat draughty promenade together in the long past days of their student life, we plunged into "shop."

"Can stones in the kidney," I asked him, "cause a chronic nephritis?"

I had just had admitted under my care a man who had had nephrolithiasis for many years, and who now had symptoms which might be due to uræmia.

Mr. Thompson said the answer was "Yes."

The other day I had a letter from him in which he reverted to the subject and said he was publishing a paper on it. So it occurred to me that the notes in my case might be interesting to some of your readers.

Of course, this case does not prove that the kidney stones were the cause of the man's faulty renal function—a man of 64 might well have defective kidneys from the same cause that gave him stones, and even if the stones were the *causa causans* their removal would not have helped him, but their presence certainly added to the difficulty of making a diagnosis, or, rather, caused the making of one to be more interesting.

Yours, etc.,

ARTHUR J. CLEVELAND.

224, Unthank Road,
Norwich.

THE CASE

A farm labourer, aged 64, was admitted on June 5th, 1928, with a history of having been out of sorts for the last 10 weeks. His symptoms were: Vomiting at frequent intervals, preceded by nausea and discomfort in the stomach; constipation; slight headaches, and two fits followed by unconsciousness the day before admission.

In 1907 stones were removed from his left kidney.

His urine had a sp. gr. of 1,020 and contained a trace of albumen. His blood urea on June 6th, 1928, was 79 mgms. per 100 c.c. and on June 14th, 1928, 116.

His B.P. was not recorded, but my recollection is that it was raised. Wassermann's reaction was negative.

His discs and retinæ were normal on June 6th.

X-ray showed two shadows in the left kidney area, indicating stones.

I was asked to see him on June 23rd and took him over to the medical ward. His mental condition was "muddled," pulse and temperature normal and all his reflexes normal.

A day or two later I examined his eyes and found well marked neuro-retinitis with extensive areas of white exudate.

I asked Dr. Greene, one of our ophthalmic surgeons, who had examined his eyes on June 6th, to see him again, and he was surprised at the rapidity with which the retinal lesions had developed. He declined to say definitely whether they were characteristic of intra-cranial pressure or of chronic nephritis, but he inclined to the former.

Later, it became clear that the man had a cerebral tumour, and after his death on July 25th, 1928, a large glioma was found in the right occipital region.

There were two stones in the left kidney, but, unfortunately, no note was made of the condition of the kidneys themselves. I was unable to be present at the autopsy and the pathologist's attention was not particularly drawn to them.

Like most of the interesting cases one sees, the difficulties of diagnosis were greater when he was first admitted than after he had been under observation for 2—3 weeks.

His case illustrates the following points:—

(1) That a patient can have two diseases. We always try to explain all symptoms by one lesion—and quite rightly—for it is very seldom that more than one serious pathological process is active at the same time, but it is clear from this man's blood urea that his kidneys were functioning badly, and that being so his fits and mental condition might quite well have been due to uræmia.

(2) That removal of stones from the kidney is no guarantee that they will not reform.

This not infrequently happens, and I always urge the necessity for having a stone analysed and the patient advised how to avoid the formation of others. In this conjunction I may quote the case of a woman who had been passing stones for several years and had been regularly kept on alkalies on the assumption that the stones were uric acid—analysis showed them to be phosphatic.

(3) Discs and retinal changes may not appear until late in the course of a cerebral tumour.

Riposte

To the Editor of the GAZETTE

SIR,—I am glad to see that Alice Loper—and, I hope, other S-Loper's also—has read my letter, which you have kindly named "A Brickbat."

I confess to a feeling of surprise and regret that the reading thereof caused her—or can it be him?—a sleepless night, yet it is good for the young to know what a sleepless night feels like.

Maybe, when Alice grows to the age of a Matron—or of a Visiting Physician—and, perchance, has suffered from greater or lesser illnesses, and has been forced herself to swallow the inevitable dose of Ol. Ricini from the ordering of which the entire medical profession refuses to be divorced, she will be able to understand my point of view. Then she will have reached the ideal state of nursehood—or doctorhood—in which a patient is not looked upon as a mere drain pipe into which to pour drugs—experimental or otherwise, as her letter implies—nor either as a golden goose to be plucked or a mild lunatic whose suggestions are to be politely disregarded.

Yours, etc.,

K. J. C.

Semi-Final Rugger Match

To the Editor of the GAZETTE

SIR,—It was brought to my notice that at the semi-final Inter-Hospital rugger match at Richmond last week, a large number of the Guy's supporters climbed the barriers to the roped seats, and, furthermore, refused when asked to pay the official charge of 1*s.* for the privilege of using these roped seats.

I should like to point out the childishness of this practice, for there is nothing essentially clever in this form of "gate crashing," and it only tends to annoy the authorities and to bring discredit upon the name of Guy's.

The proceeds of the Inter-Hospital matches are divided amongst the participating hospitals, and reserved for the benefit of the junior rugger teams.

If this be known amongst the junior men at the Hospital perhaps there will be less of this practice at the final.

Yours, etc.,

N. ECKHOFF,
Hon. Sec., G.H. Clubs' Union.

The College,
Guy's Hospital, S.E.1.

Sport

Rugby

Guy's *v.* Birkenhead Park

ON Saturday, February 23rd, and for their last home fixture of the season, Guy's entertained their old friends, Birkenhead Park. Owing to exam.'s and illness, the Hospital were again much below strength and had to admit defeat by 2 placed goals and 1 try (13 points) to 3 tries (9 points). Thus, the visitors fully avenged their only home defeat of the season when they were beaten by Guy's a month ago.

Without begrudging their victory, the Park were a trifle fortunate to win, as their first try was undoubtedly scored from an offside position—the referee being at the time unsighted.

However, Birkenhead through superior goal kicking secured the verdict after a very fine sporting struggle. It was an excellent contest from start to finish, and from the spectator's standpoint one would have to go a long way before seeing a cleaner and more open game.

Despite the recent heavy frosts, the ground was well-nigh perfect, and Guy's kicked off under excellent conditions.

In the early stages Guy's were forced to touch down, but soon afterwards Ryan received from Thomas, feinted cleverly, and made considerable ground. When tackled near the line he passed to Fichardt, who sent in Thomas for an unconverted try.

The visitors, following midfield play, took up the offensive and pressed to our 25. Following a scrummage, Popplewell secured and sent Hogbin away to score, after a magnificent run from our own half. After such a brilliant effort it was not surprising to see him fail with the kick at goal.

The visitors then carried play to our half and, following a scrum in our 25, Wild crossed for Kelly to convert. Immediately before the interval, Richardson broke through and cross-kicked when tackled. Gibson was up to take the ball, and scored a try, which was not converted.

After the breather the visitors very nearly dropped a goal, but the efforts of both Green and Gibson fell short. Guy's retaliated with some smart movements between the threes and, following clever work by W. Lewis and T. Morgan, Popplewell gave Guy's the lead with a fine try, which Hogbin just failed to convert.

Near the end the Park took up the attack and Richardson accepted a good pass from Knowles, and showing a clean pair of heels to our defence, ran in behind the posts, for Kelly to convert.

Guy's Team—J. C. Hutchinson; O. Ive, T. Fichardt, D. F. Ryan, W. Lewis; I. K. Thomas, I. C. Wilson; J. R. F. Popplewell, R. A. P. Hogbin, T. Morgan, A. R. Clarke, J. L. Batchelor, D. S. Clogg, J. Kunovsky, K. P. Smith.

Inter-Hospital Cup 2nd Round
Guy's *v.* Middlesex Hospital

AFTER several postponements owing to the severe weather Guy's were able to decide their match with Middlesex on Monday, February 25th, although the conditions were about as wintry as they could be and all against good football. The cold wind was so intense that nobody could hold the ball with any degree of safety, and as a result the play generally was clumsy and scrappy.

Although Guy's won by 1 placed goal and 2 tries (11 points) to 0, on the run of the play they should have won by a wider margin.

On the other hand, Middlesex tackled soundly in the first half and their marking was very keen. It was not surprising therefore to find that they held their own against the numerous attacks that were initiated, but which never materialised owing to the faulty passing and over eagerness of our men to break through.

True, Guy's were without several of their regular players, and this, in a sense, may have contributed to their ineptitude.

The forwards played their part well and heeled the ball frequently. Howell and Thomas, the halves, were smart in getting the ball away, but, more often than not, there the movements ended.

The only score of the opening half came from T. Morgan who, following a strong run by Fichardt, crossed the Middlesex line for an unconverted try.

After the interval Guy's pressed heavily and a good movement initiated by Howell and Ryan gave Ive his chance to cross for a try, which was not converted.

Towards the end Morgan secured in a line-out near the goal line and registered another try, which Fichardt converted.

Guy's Team—J. C. Hutchinson; O. Ive, D. F. Ryan, T. Fichardt, W. Lewis; I. K. Thomas, J. Howell: J. R. F. Popplewell, R. A. P. Hogbin, A. R. Clarke, T. Morgan, J. S. Batchelor, D. S. Clogg, K. P. Smith, L. Brown

Guy's *v.* Bristol

OUR visit to Bristol on Saturday, March 2nd, proved a disastrous trip, the Hospital losing by 2 goals 1 placed goal and 6 tries (31 points) to 0.

Apart from the fact that Guy's had several notable absentees, Fichardt failed to put in an appearance, and during the early part of the game Guy's played one short.

Owing to injuries received in the Cup Tie, Popplewell and Morgan were unable to travel, and, in addition, Windsor Lewis, Thomas and Robinson were all prevented from playing owing to illness or injuries.

On the other hand, Bristol fielded a very strong side, which included several men of international fame.

Guy's kicked off before a large crowd and Bristol at once opened up the game and by accurate passing carried play to our line. Burland made a fine burst and then the ball travelled along the whole line, but Sherman slipped when a yard from the line and was held before he could recover.

For a time Guy's were pemmed in their own half and several forward rushes by the home side were only frustrated by the fine work put in by our defence. Spence brought temporary relief with a fine cut through and beat Browne, the International full back, easily, but the attack was not sustained. Later, our forwards dribbled in magnificent style until Browne took the ball from their feet.

After 15 minutes Coventry scored from a forward rush, but Hale missed the kick at goal.

Very soon afterwards Burland sent Stinchcombe in, but Browne hit the cross-bar when trying to convert.

After this reverse McGuffie, of Bristol, came out to complete our side, and took his place on the left wing. The Hospital forwards attacked very strongly at this point and for a time Bristol were kept busy defending their line. Guy's came very near on two or three occasions, but eventually the home side broke away and passing between Stinchcombe and Lillicrap ended in the latter running easily for another unconverted try.

A good individual effort by Peatfield followed and considerable ground was gained before he was stopped by Burland.

Before the interval offside against the Hospital allowed Burland to land a penalty goal, and Bristol led at the interval by 12 points to 0.

The last-named player was in wonderful form and in the opening minute of the second half distinguished himself with a brilliant run, but was forced into touch near the line, as was Sherman a moment later.

McGuffie then retaliated with an equally fine run and reached the Bristol 25 before he was collared.

Bristol kept up the attack, but Witherow put in plenty of good work in keeping his line intact. However, Burland made a great burst, but his

final pass went astray. Immediately following the Bristol pack rushed the ball over the line and Ferris secured the touch down. Clever handling by the home side three's enabled Stinchcombe and Burland to add further tries.

Our forwards then made another fine effort and were seen to advantage in a capital piece of footwork, which covered half the length of the ground, but Bristol relieved and from a scrum Carter outwitted our defence and scored near the posts for Burland to convert.

Near the finish Lillicrap completed our discomfiture by scoring another fine try and Burland added the extra points.

It was a pity that Guy's were so weakly represented. However, the forwards did exceptionally well against a first-class pack. Hogbin played by far and away his best game of the season and was ably supported by Malone and Batchelor.

Guy's Team—J. P. Witherow; W. McGuffie, S. R. Peatfield, F. H. B. Spence, W. Lewis; D. F. Ryan, I. C. Wilson; C. D. Malone, R. A. P. Hogbin, J. S. Batchelor, A. R. Clarke, G. F. Lashmore, D. S. Clogg, J. P. O'Shea, L. Brown.

Guy's *v* Llanelly

ON Saturday, March 9th, Guy's visited Llanelly and were defeated by 3 goals and 4 tries (27 points) to 0. This match aroused tremendous local interest and a large crowd turned up to see the home side in their best form.

Unfortunately, Guy's were again handicapped through injuries and several reserves were called upon to make the journey.

The home forwards played a hard game and gained the advantage in the scrums. This enabled Rees, their scrum half, to feed his backs continuously and Dai John took full advantage of the numerous opportunities that came his way to open up the game.

On the other hand, in view of their cup tie responsibilities, Guy's took things rather leisurely and were not inclined to take any risks.

Llanelly crossed over after the interval with a lead of 19 points, tries having been scored for them by E. Finch (2), I. Jones and Dai John, I. Jones converting two of these.

In the second half B. Howells scored two tries, while I. Jones scored another, which he converted.

Guy's Team—D. P. Witherow; A. J. D. Lewis, Walter Lewis, F. H. B. Spence, T. G. Robinson, D. F. Ryan, I. C. Wilson, J. R. F. Popplewell, C. D. Malone, J. S. Batchelor, A. R. Clarke, D. S. Clogg, J. Kunovsky, L. Brown, R. G. Knight.

Inter-Hospital Cup Semi-Final
Guy's *v* King's College

AT Richmond on Thursday, March 14th, Guy's were successful by 1 placed goal and 2 tries (11 points) to 1 penalty goal and 1 try (6 points), and qualified to meet either London or St. George's in the Final.

Without a doubt, this was one of the best games seen in the competition for several years, and both sides are to be congratulated on the fine sporting spirit which followed this match from start to finish.

It was a ding-dong struggle and the issue was in doubt until the final whistle. Guy's owed their success to their strong staying powers, and had not King's tired towards the end they might have pulled the game out of the fire.

Both sides were strongly represented, and with the return of Windsor Lewis and Eustace after several weeks' absence, Guy's were practically at full strength.

It was an ideal day and the ground in excellent condition. Guy's kicked off and at once attacked through Fichardt, who found touch with a good kick. Windsor Lewis then broke through in the centre and the ball came back via W. Lewis to Ryan, who made a fine attempt to drop a goal, and King's touched down. Although King's continued to press, King's were the first to score through a good individual effort by Lyle. Receiving in his own half, Lyle found a gap in our defence and made ground to our 25, when he sent in Gilpin for a splendid try in the corner, which was not converted.

Stung by this sudden reverse, Guy's went off at a great pace and carried play to King's 25, but in a few moments King's retaliated through excellent passing between their threes, who drove us back to our line. Good kicking by Wakeley, their full back, greatly helped in keeping us in our half, and one or two anxious moments were experienced before we were able to take up the offensive.

A spell of midfield play followed, with the exchanges fairly even, but just before half-time Windsor Lewis made a splendid opening and gave to Fichardt for Robinson to score an excellent try wide out.

Before the whistle went for the interval, King's missed a wonderful opportunity to take the lead. McKenzie broke clean through, but instead of going on he chose to pass to his wing, who missed the chance.

Immediately on resuming Guy's forwards made a strong rush and compelled King's to carry over their line. From the 5 yards scrum the ball came

out to Wakeley of King's. Instead of finding touch he decided to run, and F. H. B. Spence made a fine tackle and the ball was secured by Robinson. The latter made full use of his speed and, running strongly, scored another good try in the corner, which Hogbin failed to convert.

Very soon Guy's increased their lead through hesitation on the part of the King's defence. A long punt appeared to be going out of play when Windsor Lewis made a great sprint and touched down behind the posts, for Hogbin to add the goal points.

King's then warmed up to their work and forced a scrum near our 25. Windsor Lewis relieved with a well judged kick, and this was followed by some excellent passing between W. H. Lewis, Fichardt and Walter Lewis. The King's threes made plenty of ground by short passing along their back division, but Robinson intercepted the final pass to the wing.

Offside against Guy's gave King's their chance to reduce the deficit by registering an easy penalty goal. With only 5 points separating the scores, both sides made determined efforts and the excitement was intense. The supporters of each team yelled encouragement to their respective hospitals, but no further score came, although one or two golden opportunities were thrown away through over-eagerness. On one occasion Malone had the line at his mercy and only had a yard or so to go, but in response to Robinson's call for the ball he gave a forward pass and the ball was cleared.

Towards the end Fichardt attempted to give a long pass to the wing, but Gilpin intercepted and was nearly over, but Morgan relieved and the closing stages saw King's defending their line.

It was a splendid game and one only wishes that there were many more like this. Whilst congratulating the whole team upon their excellent performance, every credit must be given to King's for their splendid display.

Ryan was very safe at full back and his tackling was excellent. All the backs played well, but our defence in the centre did not appear as strong as usual. Windsor Lewis and Eustace had a capital understanding at half, whilst the forwards, who have always been so reliable, gave a magnificent exhibition and worked hard throughout.

Guy's Team—D. F. Ryan; T. G. Robinson, F. H. B. Spence, T. Fichardt, Walter Lewis; Windsor H. Lewis, R. Eustace; J. R. F. Popplewell, C. D. Malone, R. A. P. Hogbin, A. R. Clarke, J. S. Batchelor, T. Morgan, D. S. Clogg, J. Kunovsky.

BOXING

Guy's *v.* Film Stars

THE boxing match between Guy's and the Film Stars, arranged by the Rag Committee, took place at the Stadium Club on Friday, March 15th. The Stadium was quite full, and everybody present had a most enjoyable evening.

The Dean and Mr. Humphrey who were present both expressed their pleasure at the boxing. There were 12 fights between Guy's and the Film Stars, and the result was a draw of six wins each. The winners for the Hospital were A. State, J. Singer, R. Johnson, G. Timson, J. Batchelor and J. Kronenburg. The last named and his opponent put up the best contest of the evening—an exhibition of pluck and spirited fighting, and it is rumoured that the Dean from the balcony was giving advice in the approved Alf Hewitt style. Both the winner and loser were cheered lustily after their contest by the thoroughly excited audience. The Guy's men who lost all put up good performances; one or two were fighting not because of their boxing abilities so much as for their enthusiasm for the success of the show. The audience, too, was very enthusiastic, and the many Guy's men present gave vent vocally to their pent-up feelings with the usual Hospital war cries, and, it is said, that Mr. Humphrey himself led the rendering of these from the balcony.

A very humorous exhibition was given by the 25 stone film star "Tubby" Phillips and Alf Weston. The latter was not able to reach his opponent's face, so contented himself with "punishing" short-arm jabs to "Tubby" Phillips' hypogastrium in front and dealing severely with his gluteus maximus from behind. The M.C. was given the verdict.

An excellent exhibition bout was given by H. Mitchell and F. Mallin—the former an ex-A.B.A. champion and the latter a present A.B.A. champion. The services of two welter-weight amateur champions were also procured, and a spirited 6-round contest resulted.

In conclusion, the Rag Committee would like to thank all those who helped in various ways to make the show possible, and especially to the management of the Stadium Club, who so kindly lent us the hall free of charge. Hospital Funds are expected to benefit by about £70.

Birth.

WEBB—On November 9th, 1928, at Ranchi, to Constance Elizabeth, wife of Eric R. Webb, L.R.C.P., M.R.C.S., of Itki Sanatorium, Chota Nagpur, India—a son and daughter.

EDS. { O. P. / E. T. C.

GUY'S HOSPITAL GAZETTE

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PASSIM

TO win the Inter-Hospital Cup is no mean ending to a Rugger season, however lean in other ways, and we heartily congratulate J. R. F. Popplewell and his team on their splendid victory in one of the closest matches ever seen on the Richmond ground. The winning try came suddenly, and signalised the end of an anxious period during which our forwards seemed unable to maintain their first-half dominance over the opposing pack. However, from that moment when A. J. D Lewis swept over to touch down his solitary try all doubts as to the ultimate result seemed to vanish. Almost at once our forwards regained the upper hand and held it to the end, while the Londoners rapidly tired and lost the dash that so often spelt danger in the opening period of the second half. We leave further comment to an abler hand on ensuing pages.

▭

As a side issue, second in importance only to the main issue of Cup Final day, comes the news that the energetic and multi-coloured band of enthusiastic people who collected for the Hospital funds gathered together the solid sum of £659 16s. 6d. no mean feat, and one on which the organisers of this daring raid on the public purse are to be heartily congratulated.

▭

WE offer our congratulations to O. A. Beadle, B.M., B.Ch. Oxon., on being elected Radcliffe Travelling Fellow at Oxford University. The Fellowship, which is tenable for two years, was founded to enable the holder to travel abroad in order to study medical science, and is forfeited if more than nine months of that time is spent in the United Kingdom. Since 1921 one other Guy's man has been Radcliffe Fellow, Dr. M. E. Shaw, who was elected in 1923.

▭

WHEN we light-heartedly scrawl "Rep." on Out-Patient letters week after week our only feeling is one of relief that we have satisfied both the patient and ourselves with one short syllable. And the patient, full of contentment at getting his elixir so easily, pays his 6*d.* with good grace to the dispenser in return for a replenished bottle. The whole affair seems very simple and very small. But one bottle of "Rep." leads to another, the barrel in the Dispensary becomes emptier, another barrel is ordered—and yet another. And behind this orderly untidiness in the Dispensary, this cave of bottles, bowls, boxes, cans, crates, tins and gallipots, there is one who counts and reckons and checks and counts again. The result is the annual Dispensary Report. We have recently been accorded a glance at the Report for 1928, and our minds are overpowered by the enormous quantities of drugs in which the Dispensary deals. Possibly a few excerpts from the Report may be of interest to GAZETTE readers. In the first place the attendances at the Dispensary from Out-Patients show an increase of 3,734 over 1927 and 6,287 over 1926, the total being 228,833 for 1928. Turning to the quantities of various drugs ordered, we gather that effervescent powders are gaining over liquid paraffin in popularity, while bismuth and honey are on the wane. We trust that the smaller quantity of iodoform purchased as compared with 1927 indicates that the Externs are

realising the extremely unpleasant odour that this drug leaves in the College atmosphere. It is staggering to note that over 200 miles of " bandage cloth " were purchased during the year ! This is dispensing on a gargantuan scale.

In view of the excellent efforts made the by hospital boxers not so very long ago in the cause of charity, we are somewhat surprised at the remarkably poor show put up by Guy's men in the recent Inter-Hospital competitions. The disappointment occasioned to many keen supporters when all but two of eight entries are scratched at the last moment is likely to dampen future enthusiasm to a considerable degree, and do much more damage to local prestige than any number of defeats.

One, Lucifer, hit upon the apple to effect the fall of man, and now Lucio of the *Manchester Guardian* invites the same experienced fruit to the destruction of New Health and its protagonists. We quote from verses in the issue of that journal dated March 27th last :—

" Sometimes one wishes the priests of New Health
Were content to do good with a little more stealth—
One feels over-lectured and tempted to say,
' Ah, find me an apple—an apple, I pray !
An apple, I pray—
An apple a day
Guaranteed to keep this kind of doctor away ! ' "

Does Lucio realise, we wonder, that " this kind of doctor " is the one most likely to recommend his patient the desired apple ?

ERRATUM NOTICE

In our last issue the paper on " Impression Taking " was advertised as written by D. S. Clogg, L.D.S. We regret that the L.D.S. was prophetical and not actual.

Obituary

RAY ERNEST REGINALD PALMER

RAY ERNEST REGINALD PALMER—or " R. E. R." as he was generally called—entered Guy's in January, 1927. He was entered for both Dental and Medical, and bade fair to be a student of great ability.

Passing easily through the various preliminary stages—Mechanics, Phantom Head Room, etc.—he started in the Conservation Room in April, 1928, where his work was always up to a very high standard, especially that which called for mechanical dexterity.

His relaxations took the form of sailing, tennis and motoring.

It was the pursuit of the first of these that caused me to know him well, for he was asked if he would like to fill a vacancy in the crew of *Albatross* for 1927.

He eagerly accepted and, with Roche as skipper, we cruised down the west coast of France. As a companion for a small yacht cruise one could not wish for a better. Always good humoured, always ready for his share of the dirty work, and always the first to jump to any position of danger, he contributed largely to the winning of the Royal Corinthian Challenge Cups for the best cruise of the year.

In 1928 he was elected Hon. Secretary of the Sailing Club, and also represented the Hospital in the Inter-Hospitals' Regattas of 1927 and 1928.

In February, 1929, he contracted the all-prevailing influenza, which was followed by a double lobar pneumonia of streptococcal origin, with the addition of extensive pleurisy. Warded in Naaman, he made a gallant fight against overwhelming odds for a fortnight, and even showed signs of early recovery. But, alas, a sudden recrudescence of infection found him too weak to respond, and he died in the early morning of March 18th.

His untimely loss will be felt by his numerous friends, each of whom will like to remember him engaged in those activities which they shared with him.

Personally, I cannot do better than to recall a certain day in the Chanal du Four, when, in a full gale and mountainous seas, we fought together for half an hour to change the jibs, expecting every moment to be washed overboard.

G.N.W.

Hyperpiesis

A Paper read before a Combined Meeting of the Physical & Physiological Societies, by J. B. Blaikley, Esq.

MR. CHAIRMAN AND GENTLEMEN,—I must apologise at once for the grossly inadequate way in which I deal with the subject of "hyperpiesis, or high blood pressure, in this paper. I chose the subject for the reason that subjects with a raised blood pressure are not uncommon in private practice, and with a proper understanding of the symptoms produced, and of the different conditions responsible, much may sometimes be done for the patient; unfortunately, in the vast majority of cases the patient is seen for the first time with incipient heart failure. Routine measurement of blood-pressure in all cases, whatever the illness, offers the only hope of recognising the condition in a treatable and possibly curable stage.

Let me enumerate in what ways high B.P. might be considered to arise:—

(1) There may be a disturbance of the regulating centre in the brain—*e.g.*, pressure due to tumour or bleeding from a ruptured vessel, emotional upset;

(2) Obstruction in the peripheral vascular system necessitating increased force on the part of the heart to maintain the circulation—*e.g.*, arteriosclerosis of the arterioles or even arteries, spasm of the arterioles (possibly produced in (1)), venous and therefore capillary stagnation, due to back pressure;

(3) As a result of endocrine upset (cf. the low B.P. of deficient secretion of the suprarenals, as in Addison's disease);

(4) As a result of toxæmia, the toxins acting either centrally or directly on the muscular coat of the vessel;

(5) As compensatory to damage in one particular organ, such as the kidney, necessitating a higher B.P. to drive the necessary quantity of blood through the organ in order that it may maintain its full function in its damaged condition.

I will ask you to bear the above suggestions in mind with reference to the matter to follow; many of the causes would inter-operate and cannot be considered as acting individually.

The relation that exists between hyperpiesis, arteriosclerosis or, better, athero-sclerosis and kidney disease is one that has interested and baffled medical men for many years. For a long time it was considered that hyperpiesis was secondary to occlusion of the peripheral vessels by arteriosclerotic changes; it was not until Clifford Allbutt demonstrated that at least half of all cases of arteriosclerosis had normal or low blood pressures that the view became popular that in hyperpietics arteriosclerosis was the result of the increased strain on the vessel walls in withstanding the high pressure within. The muscular coat of the vessels becomes hypertrophied, the elastic lamina of the *intima* is split with deposition of cholesterol fats, and, later, calcification may occur.

The relation between the kidneys and hyperpiesis was first realised to the full by Mahomed, a Guy's physician, in 1870 (approximately). He insisted that "granular kidney" was preceded for some years by high B.P. and that thus a "pre-albuminuric stage" of granular kidney could be recognised. It was only later that Clifford Allbutt and others followed up patients with hyperpiesis over some years and realised that some never developed into cases of granular kidney or chronic interstitial nephritis, that even some of those who in the later stages developed albuminuria at autopsy showed no gross disease of the kidneys. To this latter series Clifford Allbutt affixed the term "Hyperpiesia," denoting that in these patients the high B.P. was primary to the physical changes that occurred. Chronic interstitial nephritis and hyperpiesia are the two great diseases in which hyperpiesis plays such a great and fatal role. Allbutt states, and on good foundation, that arteriosclerotic kidneys do not of themselves cause a high B.P., but they afford a difficult group in as much as the arteriosclerotic changes may be secondary to the hyperpiesis of hyperpiesia, may be superimposed on a not well marked case of chronic interstitial nephritis or may simply be the site of onset of a general arteriosclerosis.

I will now return to the causation of high B.P. In the first place we remember that a raised B.P. occurs, and afterwards disappears, in acute nephritis, and in eclampsia and pre-eclamptic states, conditions in which it seems reasonable to postulate a toxæmia, which would presumably cause the hyperpiesis either by a central effect or local action on the arterial muscle or its nerve endings. However, in the majority of *avowed* toxæmias—*e.g.*, severe dental sepsis, infectious fevers such as diphtheria, gout, empyemata and intestinal toxæmias—the blood pressure is found to be consistently normal or below normal. But, again, in lead we find a tissue poison that produces hyperpiesis, arteriosclerosis and sometimes chronic nephritis. In this connection Dr. Batty Shaw quotes a most interesting case in which a patient

with a B.P. of 180 was found to have a hydronephrosis, which was removed; the B.P. at once returned to normal. This case suggests the possibility that the toxin concerned is the result of non-elimination of products of metabolism by the kidney, the pressor substance accumulating in the blood beyond normal limits.

Since the compound molecules of the living cell are supposed to show a stronger affinity for protein radicals than those of carbohydrate or fat, search has been made for protein products of bacterial decomposition. Tyramine derived from tyrosin, like adrenalin, has a pressor, though not so marked, action, a compound like ergot and a ? histamine body are the three most definite which can produce high B.P., but the part they play remains as yet undetermined.

It has long been held that excessive food and drink will end in apoplexy, and there is good reason to believe that this was once so, and that even now, when the majority cannot afford the time or money to become gluttons, they probably play their part. It is worth noting that with the hereditary predisposition which is well known in hyperpiesia, commonly seen in the red-faced, vigorous, cheerful and well-covered man, there also goes a strong love for his food and drink. Again, excessive protein seems the chief offender. In this connection Von Leersum has shown that feeding rabbits on liver presumed to contain intestinal toxin, produced a great rise of B.P. I can find no evidence that alcohol alone causes hyperpiesis, but it may, by damaging the vessel walls, assist in causing the end-result of atherosclerosis.

But it is not always that the hyperpietic is robust and "full-blooded," he may be lean and sallow and show no excessive love for his meals; such are often highly strung and great worriers.

While considering metabolism, it is interesting to find that there is a very constant relation between hyperpiesia and the fat patient with hard, firm fat as opposed to the common soft fat of obesity. Allbutt gives it as his opinion that high B.P. and gout are not particularly associated, but that the latter is commonly found in "irregular gout"; gout and hyperpiesia at least commonly occur in patients of the same physical type; whether the liver is primarily at fault in each is an airy speculation.

A further school of thought, which Dr. Batty Shaw champions in this country, holds that the substance producing hyperpiesis is of nephrogenic origin. Eichler found the serum of both nephritic and nephrotomised animals to contain a vaso-constrictive substance like adrenalin. Tigerstedt and Bergman prepared extracts of renal cortex which on injection caused rises of B.P. only equalled by pituitrin; on the other hand, many experimenters have obtained indecisive results, and Josin and Block definitely find the serum of hyperpietics to be depressant on injection into animals. This hypothetical pressor substance is known as "renin"—*i.e.*, a substance "secreted" by the kidney.

A German, Rautenberg, in 1910, performed a series of interesting experiments in rabbits. The left ureter he tied for three weeks, then he excised the right kidney and re-established connection between the bladder and the left; in this way the animals were left with much reduced kidney substance, and in the course of the next 9 to 30 months developed high blood pressure—110-160—and enlarged hearts, and finally died. If these experiments are as informative as they appear to be, the pressor effect is surely due to failure of elimination by the kidneys. Alveus performed similar experiments, but used compression of the kidneys; the result was that the B.P. rose to fall again on removal of the compression. Rautenberg also showed that the serum of these animals —even in dilutions of 1 in 20—dilated the pupil of the enucleated frog's eye. Thevenot came to the conclusion that the nephrotoxins were albuminoid and presented no parallel with the blood urea. Possibly the substance is incapable of elimination by the kidney, through failure of the normal cycle of reductive chemical change, and that the fault lies not with the kidney but elsewhere, thus explaining "hyperpiesia," in which little kidney damage can be found. A similar state of affairs exists in gout, the kidney being unable to excrete the urates as presented to it.

Investigation of the endocrine glands does not reveal a likely cause for a permanent rise of B.P.; in cases of pituitary disease enormous cardiac hyperplasia and atherosclerosis have been reported, and in one case the blood pressure which had risen to 180 returned to normal following the administration of thyroid. This is a solitary case, lending support to the view that the normal B.P. is the result of balanced endocrine action. In no case of hyperpiesis has any corresponding change been demonstrated in the suprarenals.

That emotion and nervous tension can produce a rise of 20-30 mm. Hg. in the B.P. is well recognised; probably the result achieved is a better circulation in the brain, but with the constant reproduction of this reflex vaso-constriction and rise of B.P. is it not possible that the result is a facilitation of the reflex arc concerned, so that the vaso-constriction is maintained for long periods of time and, finally, becomes the normal condition of tone? That arterial spasm is a real

phenomenon seems now certain. In migraine the temporal artery on the affected side can be felt to harden, and in time, according to Osler, becomes atherosclerotic as opposed to a normal vessel on the other side; one case is recorded in which spasm of the retinal artery has actually been seen. We can picture the vaso-constriction of hyperpiesia to be of similar production. In this modern world the chief stresses and strains of life are those of the brain, not of the stomach, and it is highly probable that here we have the principal cause of hyperpiesia.

The remaining causes suggested in my second paragraph are seen to be such as cannot possibly be operating in any but exceptional cases of high B.P. It might be well, however, to again refer to the evidence that arteriosclerosis is secondary in those cases to the abnormal B.P. In the first place, we recognise that a large number of arteriosclerotics normally have no rise in B.P., though cerebral hæmorrhage may be caused in these by physiological rises in B.P., and some do have occasional short phases of raised B.P.; secondly, hyperpiesia can be observed in men still young and the thickening of the arteries observed as it develops. In such people it is interesting to note how variable the raised B.P. is, lending support to the theory of increased vascular tone and spasm as being the cause; thirdly, the observation referred to above of atherosclerosis in the temporal artery affected in hemi-migraine, as opposed to its fellow, again shows that the change in the vessel walls is secondary to the increased strain; further, no rise of B.P. is observed as a result of syphilitic arteriosclerotic changes, and by analogy it is reasonable to suppose that ordinary atherosclerosis also would cause no rise.

What, then, is the clinical course of chronic nephritis, with high blood pressure, and of hyperpiesia, and in what features do they differ so that the differential diagnosis is possible during life?

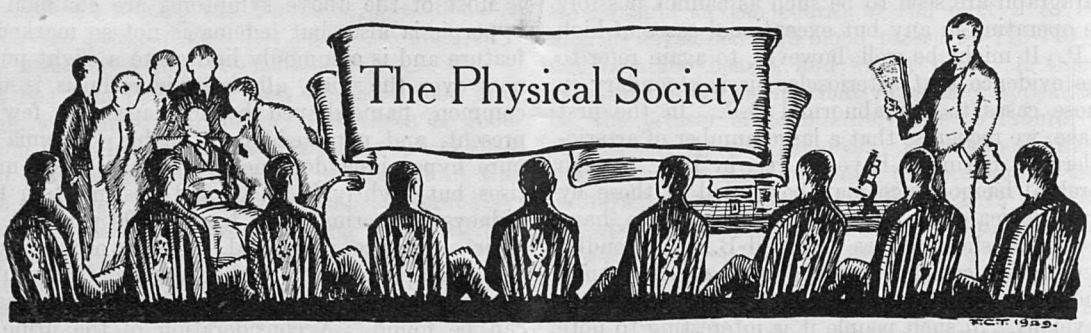
A contracted kidney, with marked loss of cortex and medulla, may be the end result of acute nephritis, followed by chronic parenchymatous nephritis, or may be produced in a more insidious manner by gradually progressive destruction of the kidney substance by toxins unsuspected. The latter is probably the commoner, and symptoms are first produced at about 50 years of age, The patient complains of the results of anæmia, of polyuria, dyspnœa, headaches, epistaxis or other hæmorrhage, inability to concentrate, irritability, failing vision, tinnitus and giddiness. On examination, a dilute urine, with albuminuria and occasional hyaline casts, is found, a hypertrophied heart, a raised B.P. and thickened arteries. If the patient is still further advanced in his illness, œdema and possibly ascites and pleural effusion may be found; papillœdema, with albuminuric retinitis and flame-shaped hæmorrhages are common; the blood urea is markedly raised and, indeed, the patient may first be seen in a uræmic condition. At autopsy, death is found to have occurred from either cerebral hæmorrhage, uræmia, or cardiac defect; a low-grade pericarditis is often found in addition to the ascites and pleural effusion often present. The time from onset of symptoms to death is short—six months to two years.

Most of the above symptoms are common to hyperpiesia also, but œdema is not so marked a feature and is commonly limited to a slight puffiness over the shins, albuminuric retinitis is uncommon, flame-shaped hæmorrhages are few if present, and papillœdema is slight. Uræmia in pure hyperpiesia does not occur, the blood urea rises but slightly if at all and post-mortem the kidneys are normal or at least 80–90 per cent. of their substance is normal. Death occurs from cerebral apoplexy or cardiac defeat; frequently evidence of previous slight cerebral hæmorrhages can be found. A consideration of the urine is of the utmost importance. In hyperpiesia it is of good specific gravity and not markedly increased in quantity, it may contain casts and frequently contains traces of albumen; the albumen is often more transient than in contracted kidney, and is always present in only small quantities, possibly it appears as a result of kidney congestion due to a failing heart. In contrast to the chronic nephritic, the patient with hyperpiesia often feels healthy, looks healthy, has a good appetite and in comparison complains of little. Symptoms on the average first force themselves to the front 10 years later, at an age of about 60 years, and even then, with adequate treatment, the patient may live for 5, 10 or more years.

To discuss hyperpiesis in greater detail: In its early stages and for some years symptoms are slight; perhaps the individual notices slight palpitation, giddiness on stooping, inability to sleep on the left side because of a consciousness of the heart's action, or a slight tremor of the hands, and perhaps on visiting his doctor he is diagnosed neurasthenia. Later, headache becomes a prominent feature; it may either be a dull ache in the frontal region or else sharp and stabbing in the region of the vertex. Often the patient, especially if of the lean and sallow type, is subject to fits of moodiness and depression for no apparent cause. Still later, and this is the stage at which so many people first visit their doctor, complaint is made of dyspnœa on moderate exertion, of precordial

pain when walking up hills, sometimes even of true angina pectoris, but as emphasisesd by Clifford Allbutt these are symptoms of an overtaxed heart, when only palliative treatment is possible, the fatal damage having already been done.

Hyperpietics are in this stage subject to a moderate degree of impairment of cerebral function, inability to concentrate, forgetfulness, especially for names. In addition "congestive attacks" are common; the subject periodically becomes extremely confused with headache and marked impairment of all simple mental processes such as speech. Those attacks are readily terminated by venesection, which in the treatment of hyperpiesia holds a high place. But for the treatment of this condition I will refer you to the *Guy's Hospital Reports* of January, 1928. In this article it is stressed that not more than 50 or 60 per cent. of hyperpietics present the classical appearance of ruddy good health, that nearly as common are the sad-faced lean and sallow type, who have not earned their fate by a life lived too well.



THE way in which on an average Thursday evening half-a-dozen unusual cases suddenly appear out of the hospital blue is almost as remarkable as the intelligent level of discussion which quite invariably follows the briefest of clinical examinations. On March 21st, with Mr. T. G. Scott in the chair, an exceptionally brisk meeting, although unable to make up its mind as to the nature of a certain abdominal tumour, found itself unanimous regarding the excellence of the pathological specimens, and discussed some five cases with great enthusiasm.

Mr. CONSTABLE emphasised the *obvious* nature of a swelling in the cheek of a young girl. The history apparently was of the briefest description, the symptoms merely cosmetic, while investigation had thrown no light on the matter. The X-ray plates, as usual, were of so little use that someone had conveniently lost them. The meeting, long accustomed to such difficulties, showed no emotion whatever at the absence of definite evidence—X-ray or otherwise—and plunged eagerly into discussion.

Mr. WOOD in order to discover the tumour had found it necessary to exercise his well known clinical acumen to the utmost limit. At first he had been of the opinion that the wrong case had reached the Massage Department. He now considered that a valuable bed in Lydia was being wasted on what could be nothing more than the result of old inflammatory changes in the region of the maxilla.

Mr. GRAFF felt *biopsically* inclined.

Mr. ABRAHAMS, with all due humility, suggested bony change following trauma.

The CHAIRMAN could contain himself no longer. "Why," he asked, "were there so many fools about?" Here was an obvious sarcoma crying out for urgent treatment. Livid with emotion he collapsed into the chair and, while restoratives were being administered—

Mr. ABRAHAMS quietly suggested that sarcomata grew rather more rapidly than this swelling appeared to have done.

Since the Chairman was still speechless—

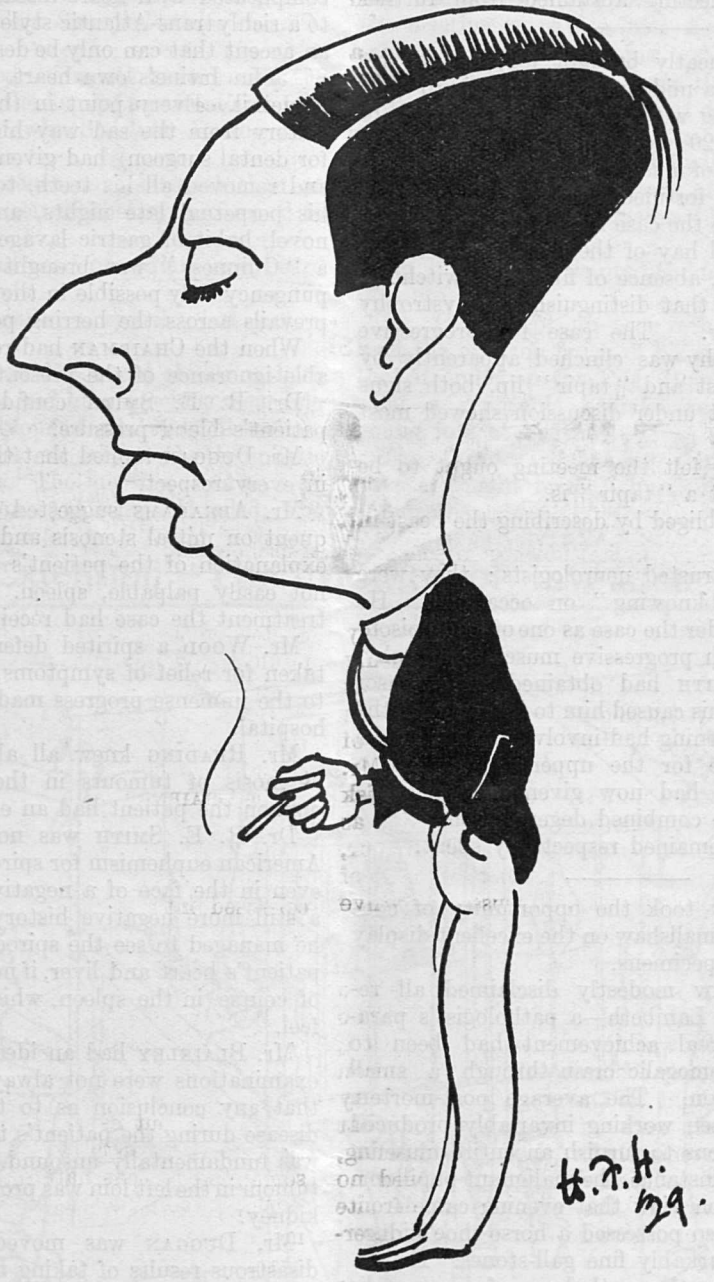
Mr. BLAIKLEY found a chance to confess with glee that he had forgotten the classification of odontomes, but nevertheless that from the direction of its growth this swelling was obviously something of that nature.

The CHAIRMAN meanwhile had recovered sufficiently to apologise to himself for having to rise again. With pained leniency he explained that some sarcomata were slow growing and others periosteal in nature.

Mr. MCCONNELL casually mentioned a diagnostic point about nasal discharge in new growths of the area under question.

Mr. BLAIKLEY persisted about odontomes.

"Physical" Impossibilities



III.—"MAC"

"Although he plays a cynic's part
He's really just a babe at heart."

Dr. R. E. SMITH thought the swelling was merely "something the mother hadn't noticed before."

Since the Chairman now began to look positively dangerous the meeting abstained from further discussion.

Mr. ERSKINE neatly brought forward the remarkable case of a middle-aged man, said to have had lead poisoning with an extensor paralysis of the upper limbs 20 years ago, who now showed advanced wasting of muscles in all parts of his body.

Mr. ABRAHAMS, fortified with a previous opportunity to examine the case in a thorough manner, made neurological hay of the distribution of the muscular wasting, absence of fibrillary twitchings and other points that distinguished a dystrophy from an atrophy. The case for progressive muscular dystrophy was clinched apparently by the "wasp" waist and "tapir" lip, both signs which the patient under discussion shewed most beautifully.

The CHAIRMAN felt the meeting ought to be told exactly what a "tapir" is.

Mr. READING obliged by describing the beast in question.

Mr. WOOD distrusted neurologists; they were altogether too "knowing" on occasions. He preferred to consider the case as one of lead poisoning, together with progressive muscular atrophy.

Dr. R. E. SMITH had obtained an extensor plantar reflex. This caused him to believe that the original lead poisoning had involved spinal nuclei other than those for the upper limb, while a previous anæmia had now given rise to a co-existent subacute combined degeneration.

The meeting remained respectfully silent.

The CHAIRMAN took the opportunity of congratulating Mr. Smallshaw on the excellent display of pathological specimens.

Mr. SMALLSHAW modestly disclaimed all responsibility. At Lambeth—a pathologist's paradise—his only real achievement had been to remove an acromegalic brain through a small abdominal incision. The average post-mortem where he had been working invariably produced sufficient specimens to furnish an entire museum shelf, and, as an instance, the malignant papilloma of the stomach on view that evening came from a woman who also possessed a horse-shoe kidney and several remarkably fine gall-stones. He declined to discuss the pathology of acromegalic enlargement of the pituitary body, but remained content with a brief clinical history of the individual case.

Mr. ABRAHAMS described the chromophobe and chromophil cells of pituitary adenomata with admirable clarity and appealed to

Dr. HAMPSON, who audited and found correct.

Mr. DUGGAN found a case of abdominal tumour complicated with heart disease more than suited to a richly trans-Atlantic style of presentation, and an accent that can only be described as being after St. John Irvine's own heart. There was no lack of detail. Every point in the patient's personal history from the sad way his dentist (American for dental surgeon) had given way to temptation and removed all his teeth, to the dark secret of his perpetual late nights, and his disastrous, if novel, habit of gastric lavage each morning with a "Guinness" was brought out with a verbal pungency only possible in the vigorous idiom that prevails across the herring pond.

When the CHAIRMAN had revealed an unbelievable ignorance of the present closing hours—

Dr. R. E. SMITH confidently enquired the patient's blood pressure.

Mr. DUGGAN replied that the *urine* was normal in every respect.

Mr. ABRAHAMS suggested heart failure consequent on mitral stenosis and regurgitation as an explanation of the patient's large liver and soft, not easily palpable, spleen. A criticism of the treatment the case had received drew from—

Mr. WOOD a spirited defence of the measures taken for relief of symptoms, and an affidavit as to the immense progress made during the stay in hospital.

Mr. READING knew all about the differential diagnosis of tumours in the left loin. In his opinion the patient had an enlarged left kidney.

Dr. R. E. SMITH was not familiar with the American euphemism for spirochætal activity, and even in the face of a negative Wassermann, and a still more negative history from Mr. Duggan, he managed to see the spirochæte at work in the patient's heart and liver, if not elsewhere—except, of course, in the spleen, which he was unable to feel.

Mr. BLAIKLEY had an idea that Army medical examinations were not always very thorough, so that any conclusion as to the absence of heart disease during the patient's term of active service was fundamentally unsound. In his opinion the tumour in the left loin was probably a "drunkard's" kidney.

Mr. DUGGAN was moved to emphasise the disastrous results of taking malt liquors.

The CHAIRMAN rose to defend beer. The applause subsiding, he proceeded to suggest that in this case the heart symptoms were a particularly roseate herring drawn across an alcoholic trail. He had no doubt that beer was responsible for the liver. Of the presence of the other tumour he

was uncertain, and proposed to take a vote of the meeting. On a show of hands the spleens outweighed the kidneys and the no tumours by a considerable margin, whereupon the triumphant French firm led by Mr. Duggan gave a spirited rendering of *The Spleen Spangled Abdomen.*

Mr. LEES addressed the meeting concerning the nature of an ulcer in the floor of a patient's mouth. The meeting realised why St. John Ervine went to America.

Mr. GRAFF was keener on treatment than on diagnosis. He had seen diathermy performed in such cases.

The CHAIRMAN had read of radium and heard of "block dissection."

Mr. ABRAHAMS made a speech, but not a diagnosis.

Dr. R. E. SMITH had discovered glands on both sides of the neck; he had his suspicions regarding radium: was all in favour of a bilateral dissection.

Mr. READING knew all about the lymphatic drainage of this area. The meeting tried to look as if it remembered some anatomy, and failed. The Chairman looked at his watch—and the meeting took the hint.

Mr. GRAFF started to tell a real bed-time story about a "lit-tle ba-by with one eye diff-er-ent to the other and a fun-ny lump under it." He wanted the meeting to have a nice discussion before he told them the "ex-cit-ing end of the story and what ter-ri-ble places Cottage Hospitals were."

Mr. SMALLSHAW let the cat out of the bag—or, rather, the suprarenal out of the abdomen—while—

Mr. READING absent mindedly recalled that a small round-celled tumour of the suprarenal medulla commonly metastasised to the bones of the orbit.

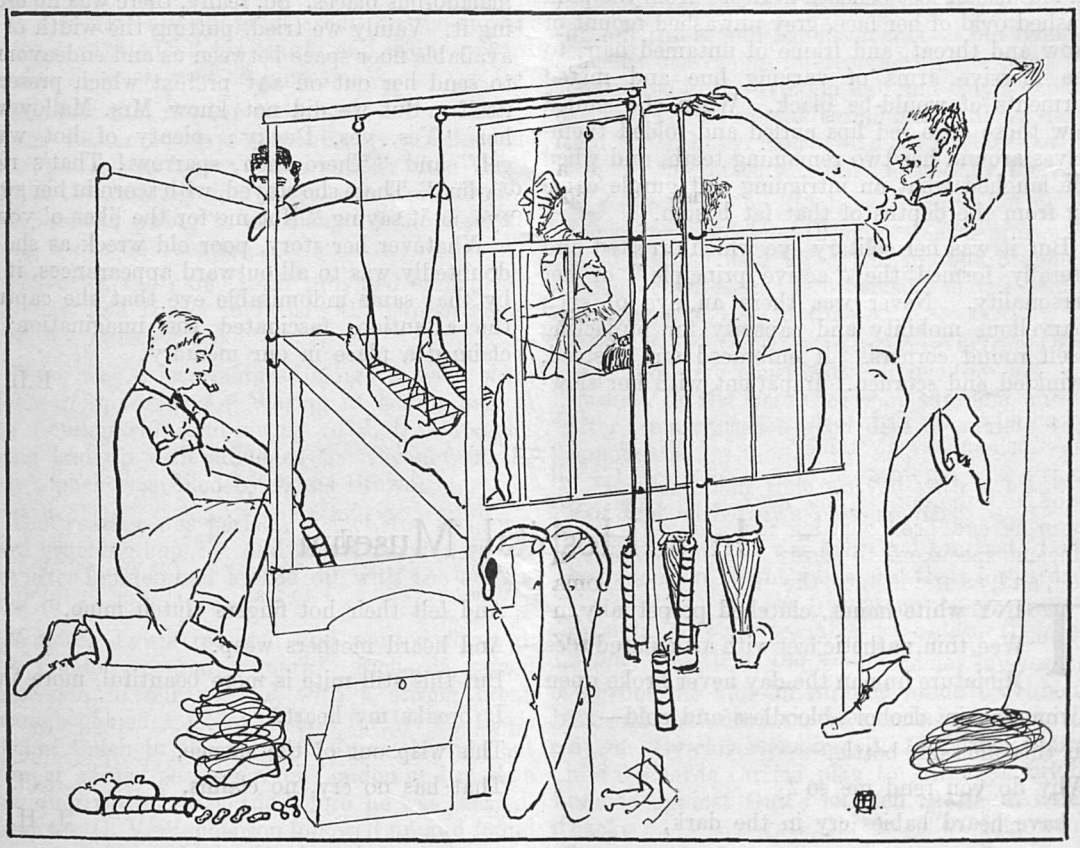
Dr. R. E. SMITH wanted to know another blood pressure.

Mr. GRAFF got up—or, rather, sat down—to read the exciting finish of his story which, seeing that it ended in the P.M. Room, was not at all what a reputable pediatrician should read to young folk at bedtime.

The CHAIRMAN, hoping that no one would have a "night terror," hurriedly announced the adjournment.

RHONCHUS

Extension—The Mother of Invention



A well-known Firm at Play

A District Digression

ONE can see it now, that roving eye—bright blue and busy—energetic and self-sufficient in its single blessedness. How it fascinated as, nimble and all-seeing, the world was swept by a single glance ; how brightly gleaming it showed up against the blurred black background of its owner.

We met her on the daily round, lending support and encouragement to a niece in her ascension to *motherhood*. She was a lady with a " presence " —a decided " atmosphere." Large, fat and shapeless, she was Irish, and the mother of many sons. You might have guessed her name to be Molloy —" Mother Molloy." Her means of livelihood were the sale of such household commodities, from jellied eels to boot laces, as she could procure, in a small gutter-standing which she rented in that well-known thoroughfare " The Cut."

She captured our imagination the moment we saw her, and the wonder of her remains with us still. For she was a picture, and a good one—an old master lost beneath neglect—from the pink washed oval of her face, grey unwashed mount of brow and throat, and frame of untamed hair, to the massive arms of varying hue and mixed garments of would-be black. When she smiled how those once red lips curled and folded themselves around her two remaining teeth, and when she laughed what an intriguing soft gurgle came up from the depths of that fat bosom.

But it was her solitary eye which arrested and literally formed the " active principle " of her personality. Never was there an eye of such marvellous mobility and capacity for projecting itself round corners. It embraced and pierced, twinkled and scorned. Impatient with her slow-moving bulk, one almost expected it to twist out of its socket in its efforts to see what was passing behind.

Given a little imagination, she might once have been passably good looking—pleasing and buxom, at least—though now her one-time claims to beauty were sunk beneath layers of adiposity and grime. Was it depression and fatigue that had made her careless alike of appearance, clothes and cleanliness in her grim struggle with adversity and an ever-increasing family ? Was it apathy born of a heart-breaking fight against hard times ? And her eye—maybe it had been widowed in one of those demonstrations of affection which are appreciated only by the class to which she belonged ? Her atmosphere—well, perhaps it would have been kinder not to mention that, though it was so essentially a part of the personality. Suffice it to say that the room in which we met was but a meagre 8 feet by 10, and comprised an entire home. Many and various had been her previous occupations, her work lay in mysterious and maladorous places. So, really, there was no escaping it. Vainly we tried, putting the width of the available floor space between us and endeavouring to send her out on any pretext which presented itself. But we did not know Mrs. Malloy with her " Yes, yes, Ducky ; plenty of hot water, gel," and " There then, sparrow ! That's right, darlin'." There she stayed, with scorn in her swivel eye, as if saying " Not me for the likes o' you ! "

Whatever her story, poor old wreck as she undoubtedly was to all outward appearances, it was by that same indomitable eye that she captured the attention, fascinated the imagination and claimed a place in our memory.

E.L.

In a Hospital Museum

TINY white hands, clutched perpetually,
Wee, thin, pathetic feet with articulated toes,
Miniature human the day never broke upon.
Swimming in alcohol—bloodless and cold—
In this museum bottle.
Why do you rend me so ?
I have heard babies cry in the dark,
And felt their hot fingers clutch mine,
And heard mothers weep.
But this still mite is more beautiful, more tragic,
It breaks my heart.
This wisp out of the silence,
That has no cry, no claims.

J. H. C.

Inter-Hospital Cup Final

THE Final of the Inter-Hospital Cup was played at Richmond on Thursday, March 28th, and after a very exciting and typical cup tie Guy's were victorious by 1 try (3 points) to 0.

The closeness of the score represents the run of a thrilling game, the issue of which was in doubt until the referee blew his whistle for no side.

The Cup therefore comes to Guy's for the seventh time since the war, and to every member of the team we offer our heartiest congratulations upon their splendid victory.

The success of the side is largely due to the able leadership of J. R. F. Popplewell, who was elected captain of the side for the second year in succession in the place of T. O. Garland, who, owing to illness, was unable to play throughout the season.

Popplewell has had many difficulties to face, as at the commencement of the season he had to build up an entirely new pack and, owing to injuries, it has been very difficult for many weeks to field a really representative side.

It therefore reflects great credit on the success which has attended his efforts and a due reward for his keenness and enthusiasm.

The fact that the cup tie was played on the eve of the Easter holidays undoubtedly affected the attendance, which was much smaller than usual, whilst the ragging and fancy dress parade was very limited owing to so many of the students being away on vacation.

However, the game itself provided enough excitement and thrills to satisfy the supporters of both hospitals.

There was a last minute change in each side; McEwan appeared for Waring at scrum half in the London side and owing to J. S. Batchelor being laid up with influenza the vacancy in the Guy's pack was filled by Louis Brown.

The weather was perfect, in fact, too hot for a hard gruelling cup tie, and Guy's faced a strong sun after London had kicked off with the advantage of a slight breeze.

Windsor Lewis received and punted forward, but London secured a mark. Fichardt gained possession in our 25 and with a strong break through gained a lot of ground for W. H. Lewis to find touch in the corner. From the line out Snipper gained possession for London and made a sparkling run of 40 yards before he was tackled. However, G. V. Stephenson followed up and found touch in the corner. Securing the ball in the loose, T. Morgan punted forward and found touch well inside London's half. The Guy's pack then made several determined raids on their opponents' line, but close marking and a deadly defence kept us out.

Stanley brought relief with a fine kick to touch, but this was nullified a moment later when they were penalised for offside. However, London sent the ball back to mid-field where Ryan, Fichardt and A. J. D. Lewis took part in some clever passing, which ended when London touched down after the latter had punted forward.

A little later Ryan was collared in possession and it looked dangerous for Guy's until Morgan relieved the situation with a nice kick to touch.

Offside against Guy's enabled Snipper to obtain a well-judged kick to our 25. London were then pushed back to their own goal line, and for a time they were kept on the defensive. Clever work by Windsor Lewis, who on two or three occasions endeavoured to cut through, assisted Spence in finding touch near the corner flag.

Following this, the ball was smartly handled by all our threes and Robinson was all but over—his reverse pass being intercepted on the line. Play continued in the London half and Guy's exploited all they knew to break through a stubborn defence and W. H. Lewis made two good attempts to drop a goal, the latter was only missed by inches.

A fine tackle by Stephenson prevented A. J. D. Lewis from breaking through. Lewis appeared to have a clear field for a run in, but Stephenson raced across from the other side of the field and collared him just in time.

The Guy's pack were playing extraordinarily well and were constantly getting the ball in the scrums. In the loose they were supreme, and time after time caused a good deal of anxiety to our opponents.

However, half time arrived with a blank first half and with Guy's pressing hard.

The second half was a distinct contrast. London had far more of the game and their forwards had the better of the argument, yet, curiously enough, Guy's were able to obtain their score which won them the match.

From the kick-off Stanley found touch in our 25, and a minute later we were compelled to touch down. By clever passing, W. H. Lewis, Robinson and Fichardt carried play to London's half, but offside against Guy's enabled Steele to send us back.

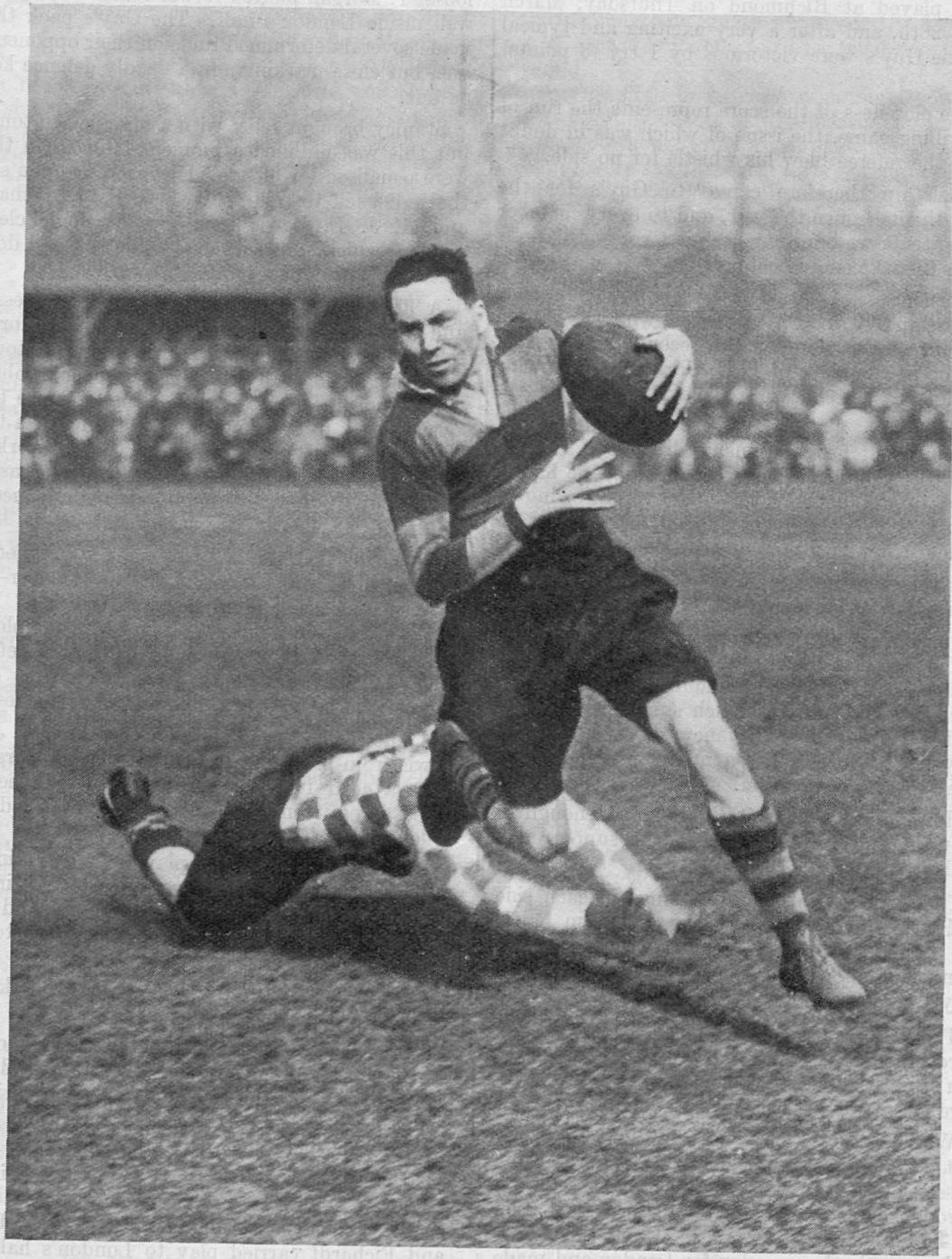


Photo by London News Agency Photos, Ltd.

The Winning Try

Guy's then found themselves faced with a dangerous situation when Clarke was penalised for offside just outside our 25. It looked a certain goal for London, but Steele, a sure kick as a rule, failed with the easiest of chances, and Ryan sent London back with a splendid kick which found touch. Not to be denied London came again via three good movements and Stephenson was tackled just in time. Disney, London's fly half, had a good chance to score, but he dropped the ball at the critical moment. Our forwards then retaliated and Brown and Clarke were conspicuous in a fine dribble before Stephenson checked the rush and found touch.

Midfield play followed for a time until fine play between W. H. Lewis, Fichardt, Robinson and Hogbin drove London to their 25. From a scrum which followed, the ball came smartly from the right to the left wing via W. H. Lewis, Fichardt, and Spence to A. J. D. Lewis. The latter seized his opportunity and with a rare turn of speed crossed the line in the corner, too wide out for Hogbin to convert. Thus, Guy's took the lead after 20 minutes of the second half amidst great excitement.

London at once set up a hot attack, but Ryan brought off a splendid save and found touch. Hogbin dribbled through on his own for quite 40 yards, and this was followed by some very fine work between our threes. Excellent passing between Robinson, Spence, Fichardt and Lewis nearly ended in another score, but offside spoilt the movement.

After Ryan had again saved by diving at the feet of two forwards, Fichardt and Robinson dashed away, and the latter when near the line passed back to Fichardt, who crossed, but the pass was adjudged forward and, from a five yards scrum, the London forwards dribbled clear.

A mark by London enabled their threes to get going, and Stephenson looked a certain scorer when he appeared to be cutting between our centres. When faced by Ryan he passed to the wing, and a golden opportunity went astray when the pass was dropped.

At this point of the game it was a ding-dong struggle, with Guy's gradually gaining the ascendancy.

However, no further scoring took place, and near the end Fichardt broke through, but his pass was intercepted and cleared.

Our forwards played a great game, especially in the first half, when they got the ball from the scrums with regularity. In the second half they appeared to tire a little and were not so effective. This may have been due to an injury to Popplewell, who sprained his ankle rather badly early in the game.

Eustace and Windsor Lewis at half had a perfect understanding and, through the former's swift and long passes, Windsor Lewis was always in the right position to set the backs moving.

All the backs played well, although the marking and tackling was so keen that they were not allowed much scope for any sustained attacks.

Ryan at full back was very sound and, apart from his excellent judgment in positioning and good fielding, ran well and initiated several promising attacks.

Guy's Team—D. F. Ryan; T. G. Robinson, T. Fichardt, F. H. B. Spence, A. J. D. Lewis; Windsor H. Lewis, R. J. Eustace; J. R. F. Popplewell (capt.), C. D. Malone, R. A. P. Hogbin, T. Morgan, A. R. Clarke, D. S. Clogg, J. Kunovsky, L. Brown.

Rugby

Guy's v. London Irish

AT Motspur Park on Saturday, March 23rd, Guy's gained a very fine victory by 1 placed goal (5 points) to 1 try (3 points). It was a glorious afternoon, perhaps too hot for Rugby, and yet a terrific pace was maintained from start to finish.

Guy's were much below full strength, but the substitutes put up a surprisingly good game and came through the battle with credit.

The Guy's pack withstood the continuous onslaughts of the home forwards, and towards the end were complete masters both in the tight scrums and loose. Hogbin, Morgan and Brown stood out by themselves and played a prominent part in the victory by their clever anticipation and quick following up. At half Windsor Lewis and Eustace had a perfect understanding, and the former initiated several fine openings and had there been stronger support the home side would have been beaten by a wider margin.

In the first half Guy's had the advantage of a slight breeze and at once compelled the home side to defend their line. Their excitement to keep their line intact nearly cost the Irish a goal in the first five minutes, as Hogbin only just failed with a penalty awarded for offside. Windsor Lewis brought off several fine rounds of passing, but the home threes put up an excellent defence and the marking was particularly keen. A dashing raid by the Irish forwards was brilliantly checked by Witherow, but several minutes elapsed before we were able to clear our lines. Eventually, W. H. Lewis relieved and this was followed by a fine

burst through the centre by A. J. D. Lewis and Kennedy, who carried play to the home 25 before the latter was thrown into touch. From a scrum, 5 yards out, T. Morgan secured and threw himself over for a good try, which Hogbin converted.

This reverse aroused the Irishmen to great efforts, and Gummer made a brilliant run for nearly three-parts of the field and was only pressed into touch near the corner flag.

For a few moments things looked very dangerous for Guy's and several scrums took place on the goal line. Just before the interval their right centre missed a glorious opportunity to drop a goal. The ball had travelled across from the right to their left wing, and a long reverse pass gave the home side their chance, but the centre elected to pass, and the ball was cleared.

Following the interval Guy's set up a hot attack and gradually wore down the opposition. A. J. D. Lewis played particularly well and showed up prominently in several good efforts, which should have met with some reward. One good effort by the Irish pack was cleverly checked by Hogbin, who made a fine tackle and relieved with a good kick to touch.

After Guy's had pressed for some time Gummer made another swerving run and crossed our line in the corner for an unconverted try.

After this the home side were compelled to defend, and although several good movements followed between our threes, the wings could make little progress, and no further scoring took place.

Guy's Team—T. P. Witherow; F. F. Kennedy, A. J. D. Lewis, J. C. Fry, H. R. Stubbs; Windsor H. Lewis, J. W. Eustace; R. A. P. Hogbin, A. R. Clarke, J. S. Batchelor, T. Morgan, J. Kunovsky, L. Brown, D. S. Clogg, K. P. Smith.

Guy's v. Newport

FOR their last fixture of the season, on Saturday, March 30th, Guy's visited Newport with a very depleted side, and they suffered their heaviest defeat this year by 6 goals and 6 tries (48 points) to 0.

Only nine of the successful cup team could make the journey, and in order to complete the side H. F. Owen, of the London Welsh, was brought in at the last moment.

Up to half time the Hospital made a very good fight, and at the interval found themselves with no more than 8 points in arrears, but subsequently they fell away so completely that their line was crossed on 10 occasions.

The Newport men were in irresistible form and gave a dazzling exhibition, and their two tries in the opening half were models of skill and enterprise. Their backs were particularly clever and displayed great pace and determination.

Owen and Ryan made several promising runs for Guy's, but they encountered a resolute defence who tackled splendidly. Witherow, at full back, did very well and by clever anticipation and some touch finding saved his lines repeatedly.

Our forwards were not nearly so good as usual and were subdued by the powerful Newport pack. No doubt they were still feeling the effects of their gruelling cup tie duel, and the long journey did not help matters.

The home side took the lead in the first five minutes, reverse passing between Griffiths and Morley resulting in Ivor Davies scoring a try.

Later on Morley, by swerving and dodging, outwitted the whole of our defence in an astounding run and scored the best try of the afternoon, which W. R. Davies converted. Just before the interval T. Morgan nearly succeeded in landing a penalty goal, but this was the only effort which looked like a scoring chance for Guy's.

In the second half it was a procession of tries for Newport, and the following crossed our line —Slade (2), Edwards, W. R. Davies (2), Peacock, Herrera and Morley (3). Four of these were converted by Morley and one by W. R. Davies.

Guy's Team—T. P. Witherow; A. J. D. Lewis, H. F. Owen, D. F. Ryan, T. G. Robinson; W. H. Lewis, J. W. Eustace; C. D. Malone, A. R. Clarke, T. Morgan, L. Brown, J. Durr, J. G. T. Tregarthen, W. E. Watson, G. H. Lomax.

Rowing Club

ON Saturday, March 23rd, 1929, at 4.30 p.m., the Guy's Hospital second boat rowed in the Head of the River Championship, over the University course from Mortlake to the University Stone, Putney, which is a distance of 4½ miles.

The crew was as follows:—		*st.*	*lb.*
Bow	J. B. Spearman	11	1
2	C. Blumenthal	11	4
3	W. J. Wheatley	11	7
4	E. S. T. Lee	12	7
5	G. A. Dingemans	13	2
6	E. B. Carpenter	12	7½
7	J. M. Lea	11	10½
Stroke	R. J. Wheatley	10	5
Cox	J. F. A. Forster	8	10

The object in entering for this race was to encourage the junior members and also to choose from the members of the crew part of the crew for the Hospital first boat.

The difficulties of coaching this crew, which was done by the captain—Mr. G. G. Ellis—were numerous; the eight went out in the evenings and it became so dark on occasions that cox was only saved from steering his boat to disaster by a timely warning from the bank; also owing to

financial reasons the club cannot afford to hire launches, and all coaching has to be done from the bank, and it is thus impossible to correct or even see all the individual faults which go to making a boat unsteady.

The boat used was a clinker-built boat, lent to us by the London Rowing Club—the less said about this boat the better, she was old and groaned under every stroke from the crew.

But all these difficulties were overcome by a keenness which has not existed among the junior members for the last four years.

The crew are to be congratulated on the splendid way they trained, and although one man, Lockwood, had to leave because of "flu," the weight list showed on the day of the race that every man had trained hard and was really fit.

The crew, in coach's estimate, were racing far too high in the division, but were lucky in having a good crew behind them, who pushed them over the course.

The following are the characters of the crew :—

J. B. Spearman—Inclined to rush forward over the stretcher, but rows with a hard finish.

C. Blumenthal—A novice, and also spare man, who suffered from lack of coaching, powerfully built, and tried hard all the time, and although unorthodox in his methods put down a good paddle.

W. J. Wheatley—A very keen oar and, whether rowing or paddling, puts all he can into every stroke, but must learn to loosen up a bit.

E. S. T. Lee—Unfortunately suffers from weakness in the legs ; is improving, but still makes his slide forward ; also he makes up for his bad leg drive by pulling with his arms. An honest worker.

G. A. Dingemans—The heaviest and strongest man in the boat, with a little more coaching would make a fine oar ; at present moves the lower parts of his body quicker than the top. Another member who puts down a good paddle in an unorthodox way.

E. B. Carpenter—During training was very worried by his position in the boat, which rather overworked him. Has a bad finish, due to a tendency to run away from his hands at the finish. Rowed himself out in the race and is very conscientious.

J. M. Lea—Backed up stroke well, must cure his habit of swinging out of the boat. Good rhythm, but inclined to be very wild at times.

R. J. Wheatley—Drove his crew, whether paddling or in the race, to their utmost capacity ; never lost his head, but must remember the one word "length." Set his crew a very fine example.

J. F. A. Forster—A great find, cheerful, and kept his crew, in the boat and changing room, happy. Steered a perfect course, never loses his head, but sometimes too daring.

DESCRIPTION OF THE RACE

The crew got a good start without any scrappiness and went away at a hard 30 in the first minute. A little above Barnes Bridge Wheatley settled his crew down at 28, and at that rate they were going well, had good length and rhythm, with the boat running well between the strokes. From Barnes Bridge to Chiswick Guy's steadily drew away from the crew behind them, Vesta R.C. III, and gained on the crew in front, Westminster Bank R.C. II.

A little above the Stork they struck rather a bad patch, and though the rate was now 26 the steadiness and rhythm were both somewhat impaired. However, stroke pulled the crew together and after several "tens" from cox they were running well, and at Hammersmith Bridge the striking was 27 to the minute. But some of the gain on the crew ahead had been lost, and although they had left Vesta R.C. III far behind, Clarence R.C., which had passed Vesta R.C., was very slowly creeping up. The Guy's VIII did not get rattled though, and from Hammersmith to the Mile Post kept the work going well, rowing 26 and 27, and though by this point they were obviously getting tired, so far from letting the work off they responded well when a little later stroke called for the spurt made necessary by the approach of Clarence R.C. This spurt became too much an affair of arms, as is almost inevitable in a tired and inexperienced crew, but with more training and racing experience they will gain the power to drive with the legs when tired.

This struggle went on all down Putney Reach, and Wheatley steadily increased the rate of striking, so that they were doing 30 in the last minute without obvious rushing or lack of rhythm. This effort provided one of the best finishes in the race and carried them past the Stone in 21 minutes 28 seconds, with cheering only beaten by that accorded to the winning boats.

The boat that won the race, Jesus College, Cambridge II, went over in 20 minutes 6 seconds and the last boat, Cavendish R.C. II, went over in 22 minutes 50 seconds. The boats to go up above Guy's II on time were Clarence R.C., Gresham R.C. II and Polytechnic Schools R.C. I, while Guy's finished twentieth in 21 minutes 28 seconds, thus improving their trial course—22 minutes 45 seconds—by 1 minute 17 seconds.

The Hospital is the first to enter a crew in the races, although St. Bartholomew's entered under the assumed name of London R.C. III ; this was their first eight, and they only managed to cover the course with 8 seconds better time than Guy's.

The Hospital races are on Wednesday, May 22nd, at 3 p.m. approximately. Serious training will start in the first week of next term.

Correspondence

Stone in the Kidney

To the Editor of the GAZETTE

SIR,—Dr. Cleveland's kindly reference to myself leads me to refer to his interesting case published in a recent number of your journal.

I recollect well a case at the Beaujon Hospital in Paris who was suffering from calculous anuria. His ureters were catheterised and the pelvis of the kidneys washed out with some hot fluid. From being pale and generally œdematous, being in a state of suppression of urine, he became quite a fair colour, passed urine, and lost to a great extent his œdema. I did not follow up the case, but recollect being very much impressed by the result, but he was never at any time unconscious.

Dr. Cleveland's case is recorded as, at some time, being unconscious, or suffering from coma. But it was a complicated case, and what I should like to ask him is this: Does he, as a physician, see many cases of uræmia who are unconscious? I have only seen one who could not be roused. Patients with uræmia are frequently, in my experience, surly and irritable, but quite conscious. H. G. Sutton had a similar experience. He points out the gradual, or rapid, weakening of the pulse and respirations, and regards these signs as the important ones, when uræmia is likely to be present.

I have seen patients drowsy, and my house surgeon has given a hopeless prognosis, but it is quite extraordinary, to my way of thinking, how wonderfully these patients recover.

I have a patient who was very uræmic and drowsy, but who could be easily roused, who is alive and getting about apparently quite well three years after his last attack.

I had a patient who was drowsy with a large amount of urea in the blood, from whom I removed an enlargement of the prostate in two stages, completely recover. He was certainly alive 10 years after the operation, but I have not seen him since 1927. One, of course, cannot be very cheerful when one sees a case of uræmia, but these cases will show that uræmic symptoms, unless accompanied by gradually weakening pulse and respiration, need not lead one to take a gloomy view of the condition.

I have also had two patients, one a male with bilateral renal calculus, and one a female from whom I had removed a pyonephrotic kidney who used to be admitted to Guy's for recurring attacks of uræmia. They certainly lived for two years after being treated for the first two attacks of uræmia

The second case is very interesting to me, as teaching me that it may be the worst thing for the patient for the surgeon to remove a kidney. Of course, nephrectomy, usually quite an easy operation, is far too frequently done for such conditions. I have on four or five occasions left a thoroughly septic kidney, after incising it, *in situ*, and the patients are still alive and well, with no sinus, and clear urine five or six years after the operation. One was five months pregnant at the time of the operation. Her baby is fit and well.

I hope a paper of mine will be in the *Guy's Hospital Reports* dealing with the association of Bright's disease with renal stone. The more I read of Bright's disease as recorded in the post-mortem reports, the more I am convinced that changes usually regarded as associated with chronic interstitial nephritis are, in fact, frequently associated with very gross causes of an obstructive nature. A unilateral interstitial nephritis associated with pressure by a pelvic growth on the same side upon the corresponding ureter in a temperate woman makes me have grave doubts as to some of the usually accepted causes of chronic nephritis. Giving such a condition a new name does not help matters forward in the least.

Yours, etc.,

A. RALPH THOMPSON.

143, Harley Street, W.1.

Guy's '89 Club

To the Editor of the GAZETTE

SIR,—The Guy's '89 Club is holding its 33rd Annual Dinner at the Hotel Cecil on Wednesday, May 8th. Will all members keep this date open and help the Hon. Secretary to make the meeting a success?

Notices will be sent out in April.

Dr. G. S. Hovenden will be in the Chair, as Dr. J. Robertson will be unable to be present.

Yours, etc.,

Barnes. GERALD S. HOVENDEN.

Hospital Information.

Appointments

J. Lewin, F.R.C.S., Honorary Assistant Surgeon to the West Norfolk Hospital, King's Lynn.

H. C. C. Taylor, M.D.Lond., appointed Honorary Physician and Pathologist to the Derbyshire Hospital for Sick Children.

H. I. Maister appointed House Surgeon to the Royal Cripples Hospital, Birmingham.

Births.

DODD—On March 31st, 1929, at the Red House, Dartmouth Grove, S.E.10, to Kathleen Elizabeth, wife of Frederick H. Dodd, L.R.C.P., M.R.C.S.—a son.

STRONG—On January 25th, 1929, at 55, Alma Road, Windsor, to Mary (née French), wife of Stephen V. Strong, M.B., B.S.—a daughter.

EDS. { O. P. / E. T. C.

GUY'S HOSPITAL GAZETTE

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PASSIM

THE ire of men is again inflamed by alcohol. The decision of one American shipping company to serve alcoholic liquor on board their ships has produced an uproar of protest from the "drys." Already Congress has legalised the selling of liquor on homeward-bound American ships until the three mile limit is reached, and now the owners of the *Leviathan* express their intention of serving it on outward trips as well. The only alcohol at their disposal for this purpose is that allowed by law for medical purposes, the ration being a quart of "medicinal" whisky for five persons per month. This ration, it is proposed, shall be sold to anyone who cares to buy it, be he never so well, as soon as the limit is passed. For what particular malady alcohol is a specific treatment seems not to matter, as there is little doubt that the sufferers only contract the complaint in the presence of alcohol and only recover from it under the influence of alcohol. It is possibly a widespread idiosyncrasy against everything except alcohol. So it seems that the decision of the powers that be must eventually turn upon the question, "Is alcohol a necessity from a *medical* point of view?"

We hide our rather "wet" heads in shame and confess that it probably is not. It is true that among some races it has been used for a great many generations in the treatment of poisonous snake bites and that some pharmacologists have reported a transient stimulation of the heart muscle of the common frog after injection of alcohol. Further, there is no doubt at all that it improves the output of after-dinner speakers and sometimes cures blushing and stammering. But the incidence of poisonous snake bites in mid-Atlantic is, we imagine, comparatively small; there is probably not a single frog on board the *Leviathan*, and we cannot honestly assert that either after-dinner speeches or those other "distressing complaints" we have mentioned are really medical emergencies.

Even the beneficent effect gained by some sea-sick travellers from the consumption of champagne is accorded by "dry" and relentless pharmacologists to carbon-dioxide rather than the alcoholic contents.

To our minds, then, the practice of carrying alcoholic liquor cannot be supported from a medical standpoint. But, let us be generous about this. Every authority will admit that alcohol, in the words of Cushny, "promotes happiness" and "produces a feeling of well-being and good fellowship." Good fellowship! How often have we been urged that good fellowship is the basis of civilised society? Where should we be, we are asked on every hand, without the prevailing idea of comradeship as the main maxim of our lives? Equally, we cannot maintain this magnificent ideal without a well-developed "feeling of well being." In this argument, surely, lies the hope of the "wets." None will be so hard-hearted as to obstruct any measure which will increase the fellow-feeling of one man for his neighbour, of one country for the adjoining realm and of one continent for another.

▭

"SPECIAL open-air schools for weak, anæmic and debilitated children do not reflect the correct spirit of preventative medicine."

We rather fear that this bold statement recently made by Dr. R. P. Garrow, newly appointed Medical Officer of Health for Hornsey, may bring a whole nest of humanitarians buzzing about his ears. The question of the physically hopeless child is one with which every medical man is faced, and to which he is forced to adopt some settled attitude. Dr. Garrow provides a strong lead in a new direction and we are inclined

to consider that he is absolutely right in recommending his Council to spend their £5,000 per annum in preventive measures such as the improvement of open-air facilities at their ordinary day schools rather than on the maintenance of the special school originally contemplated.

▭

We would draw the attention of those old Guy's men who are Fellows of the Royal College of Surgeons to Mr. C. H. Fagge's candidature for re-election to the Council of the College. We are sure that only sheer procrastination can rob Mr. Fagge of absolutely unanimous support in this quarter.

▭

We note that Dr. T. Izod Bennett, M.D., F.R.C.P., who qualified at Guy's in 1912, has been appointed Dean of the Middlesex Hospital Medical School in succession to Mr. Eric Pearce Gould.

▭

Many old friends will wish to sympathise with Mr. F. H. Beckwith in his recent illness and, at the same time, regret to learn that this has resulted in his retirement at an earlier date than was expected. As Clerk to the Superintendent and in other responsible positions, Mr. Beckwith has served the Hospital for a period of 43 years. We are glad to learn that members of the administrative departments propose to make his sixtieth birthday in July next the occasion of a small presentation in which they would be pleased to be joined by anyone connected with the Hospital to whom the idea of some permanent recognition of such service may appeal. Subscriptions should be sent to Mr. Beale or Miss Huggett at the Superintendent's office.

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Our congratulations to the following, who have been appointed Clinicals for the period April 16th–July 16th :—

Mr. W. L. M. Bigby.
Mr. S. M. Cohen.
Mr. E. R. Mellon.
Mr. R. J. O'Donoghue.
Mr. S. A. Scorer.
Mr. D. B. Smallshaw.

▭

We should also like to congratulate Miss Agnes West on being appointed Assistant Matron in succession to Miss Dora Smith, who, as we have already noted in these columns, recently left Guy's to become the Matron at the Middlesex Hospital.

▭

We have been asked to draw attention to the programme of the Course in Psychological Medicine which Dr. Gillespie will give during the summer, beginning on April 19th—the day before this Gazette appears. The course, a full notice of which appears elsewhere in this issue, consists of lectures in the Physiological Theatre and Demonstrations at the Bethlem Royal Hospital. Those attending these Lectures and Demonstrations are asked to take particular notice of the times and dates, as the course only occurs once a year.

▭

The popular and successful series of lectures and counter lectures given by well-known literary men, scientists, actors and politicians in aid of the King Edward's Hospital Fund for London is to be renewed this year. The first lecture, which will be given, as in previous years, at the London School of Economics, will be on Tuesday, April 23rd, at 5.30 p.m., when Mr. Angus Malcolm and Miss Rose Macaulay will speak on "To-day and Yesterday," Lord Gorell being in the Chair. A later lecture, which particularly appeals to the imagination, will be entitled "Was Columbus Wrong ?" the speakers being Mr. St. John Ervine and Miss Mary Borden, and the Chairman Mr. A. P. Herbert—our own personal feeling is that Columbus probably did commit something of an indiscretion ! A full notice of these entertaining lectures is posted in the Colonnade.

▭

Elsewhere in this issue will be found an advertisement of interest to possible applicants for the post of Director of the Dental Prosthetic Laboratory.

Fractures of the Mandible

A Paper read before the Dental Society by Mr. C. A. Palk

Mr. President and Gentlemen,—I intend to devote all the time at my disposal to dealing only with fractures of the mandible *in front of the angle*, since this is the most common type of fracture with which we come into contact. I shall try to give an outline of these fractures with regard to the causes, diagnosis, treatment and sequelæ.

The cause of a fracture is violence—direct violence when the fracture occurs at the site of impact, and indirect violence when the fracture occurs at some other point. The ways in which

the mandible is violently treated, naturally enough, vary very considerably and are obvious, but it is striking how often they are caused as the result of motor car accidents and extractions, usually of unerupted third molars.

There are, of course, some predisposing causes; certain occupations are frequently such a cause. Boxers realise this with regard to their work, or "game," and I understand that they place pieces of soft rubber, one each side of the mouth between the upper and lower molar teeth, in order to reduce the shock of any impact on the jaw. Another predisposing cause is the presence of unerupted teeth. There is also an entirely different class of cause which predisposes to what are termed pathological fractures. By this is implied that although the actual exciting cause of the break was violence, yet that violence was so slight that if the pre-existing pathological condition had not been present no break would have occurred; it is not uncommon for such a fracture to happen when the patient laughs or yawns, so slight is the force necessary. The most common of these conditions is osteomyelitis; a chronic inflammatory condition of the bone is another, and when it occurs, which is very rarely, is usually syphilitic in origin. New growths are another predisposing cause, and may be primary and affecting the bone or secondary in the bone. But these pathological fractures are comparatively rare, so that I do not intend to generalise on the condition any further.

When about to subject a mandible to some extreme violence it is not possible to say in what part of the bone the fracture will occur, but by studying the shape of the mandible for a few moments it is possible to form some idea as to where the bone will give way. Suppose a severe blow be inflicted just to one side of the mid-line of the chin, and that no fracture occur there, the most usual thing is for a fracture to occur in the canine region of the opposite side. The explanation of this is that the force is resisted at the joint on the opposite side, and thus the convexity outwards of the portion of bone, between the site of the blow and the joint, is increased; the bone breaks at the point of greatest curvature, which is in the canine region. Another explanation sometimes offered is that the bone is weakened in this region owing to the depth of the canine socket. If violence is applied in the mid-line of the chin, the blow is resisted at both condyles, and usually both are fractured. In a child, however, and rarely in adults, a vertical fracture may occur at the symphysis owing to the as yet weak union between the two halves of the mandible. Another consideration is the position of the mandible at the moment of impact. If the teeth are clenched at that moment the tendency is for a fracture of both condyles to occur, but if the teeth are not clenched, as when the person is not expecting the blow, then the fracture occurs somewhere in the body of the bone.

The signs and symptoms accompanying a fracture of the body of the mandible are usually very clear. In the first place, a fracture of this part of the bone is always compound; that is to say, the soft tissues are damaged to such an extent as to lay the bone open to the exterior; the wound in the gum tissue is obvious at first sight, and although it by no means indicates that there is definitely a fracture, yet it certainly arouses suspicions. Crepitus and swelling may be, and usually are, present. There may be profuse bleeding owing to injury to the inferior dental artery, which may be torn or even completely divided, although the latter is rare. There is frequently an alteration in the line of the teeth, which may result in "gagging" of the bite.

The patient invariably complains of pain on opening and shutting the mouth; this would, of course, be expected, since movement of any inflamed part frequently causes pain, and inflammation is bound to occur with the violence necessary to cause a fracture. The pain may be due also to the compression of the inferior dental nerve by fragments of bone. It is usually referred to the injured area, but in fractures about the angle the pain is at times referred to the mental foramen. Owing to injury to the inferior dental nerve, when the fracture is situated between the mental foramen and the inferior dental foramen—and to the fact that the mental nerve is a terminal branch of the inferior dental nerve—there is frequently cutaneous anæsthesia over part of the area supplied by the mental nerve. It can be seen by this that clinical evidence of this nature is quite sufficient to enable one to make an almost certain diagnosis, but when radiograms are as easy to obtain as they are to-day every case of suspected fracture should be X-rayed, for by this means not only will the diagnosis of a single or double fracture of the body of the mandible be confirmed —or contradicted—but a further fracture somewhere behind the angle may be discovered.

In this respect it must be borne in mind that photos taken in two directions—antero-posterior and lateral—are necessary, since an oblique break or any one without displacement might otherwise be missed. The appearance of the actual line of fracture is a ragged line across the bone. This is not always easy to see, but may at times be spotted by following the outline of the bone to detect any irregularity, and when this is found it may draw attention to a break which would otherwise have been missed.

Although the diagnosis from radiograms should be left to an expert, there is one appearance on the plates which resembles a fracture, and is not one, and which may be mentioned here because it is seen so frequently. A cavity in the body filled with air shows as a dark shadow ; air between the tongue and the posterior wall of the œsophagus throws such a shadow, but may be seen to extend beyond the limits of the bone, so distinguishing itself from a fracture.

Another item which must be considered, both because it may be an aid in the diagnosis and because it is important in the treatment of the case, is the displacement. Displacement is usually brought about by the force of the blow, but it may be increased or made to persist by the direction of the pull of the muscles.

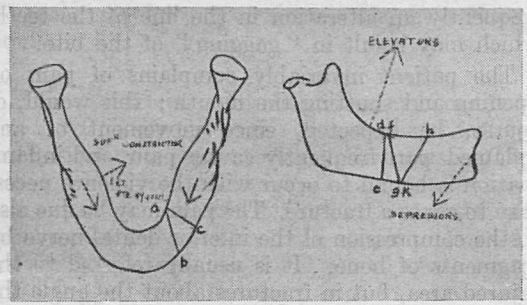

FIG. 1

Fig. 1 shows a rough sketch of the mandible, viewed from above and from the side ; the dotted arrows are intended to illustrate roughly the direction of the forces exerted by the muscles attached to the mandible—only those are put in which effect the displacement to a large extent. Briefly, it may be said that the elevators are attached posteriorly, the depressors anteriorly ; the external pterygoid muscle of either side exerts a forward and inward pull, being attached posteriorly. The superior constrictor muscle of the pharynx, which is attached at the posterior extremity of the mylo-hyoid ridge, exerts a force in an upward and inward direction. Suppose a vertical fracture (as d–e) occur in the position and direction a–b. Then, acting on the larger fragment, we have, chiefly, the elevator muscles and the depressors of *both* sides ; thus, the downward pull here is greater than the upward. On the lesser fragment we have the elevators and *no* depressors ; thus, the greater fragment is displaced downwards and the lesser upwards. Moreover, owing to the obliquity of the fracture and to the action of the external pterygoid muscles, the lesser fragment will tend to slide forward on the outside of the greater. If, now, this fracture had been slanting in the direction f–g, the upward and downward displacement of the fragments would have been prevented by the opposing ends of the bone. Suppose, again, that a vertical fracture occur along the line a–c. The vertical displacement will occur, but the ends of the bone will tend to minimise the action of the external pterygoid muscles. If the line of the break should slope in the other direction, h–k, then the vertical displacement will be still greater, since there will be no tendency at all for the ends of the bone to resist the pull of the muscles. Further, if a break along a–b should occur, and a similar break also on the other side, then the two outer fragments will be raised and will slide in front of the centre fragment, which will be depressed and drawn backwards by the hyoid muscles.

After having made a complete diagnosis with regard to the position and extent of the fracture or fractures, and with regard to the general condition of the mouth as to the presence of any septic foci such as roots, calculus and foreign bodies, one must do something to relieve the pain until such time as treatment can be started. This is invariably achieved by the application of a bandage or of some other means of support for the jaw.

The aim of the treatment one gives the patient is to restore the part to a healthy condition in such a way that it is then functional, and the stages by which this end is reached are :—

1. Preparation of the mouth ;
2. Reduction of the displacement, if any ;
3. Keeping that displacement from recurring,

and during all these stages antiseptic mouth washes must be employed frequently.

This preparation of the mouth is very essential, since if infection of the bone occurs no union can take place ; moreover, if there is a large amount of necrosis, either an operation for a bone-graft will be necessary or else the articulation will be upset eventually, since to obtain union of the shortened fragments, when the infection has been overcome, will mean displacing them from their correct position, in order to bring them into apposition. In fact, " cleanliness is next to godliness "—except with fractures, when it comes first !

There are certain things which must obviously be removed—tartar, septic roots and septic or fractured teeth. There is, however, for various reasons, a great deal of disagreement as to the advisability of removing teeth. In some cases there may be only one tooth present in one of the fragments—in other words, it is the only means of intra-oral fixation. Adolph Berger recommends the preservation of such a tooth for this

purpose even if it has an abscess on it; this seems to be unjustifiable, in that there is a tremendous risk of bone infection if the tooth be left. It is also said that if a healthy tooth be situated in the line of fracture it should, if firmly attached, be left, provided it does not impede the approximation of the fragments, since to remove it would cause trauma. The trauma should not be very great, especially if compared with that already inflicted, but although no amount of trauma justifies further damage, yet I think that one is justified in removing the tooth, since the risk of serious trauma is not as great as that of the tooth becoming infected, and even if it does occur, its result is not so serious as that of infection. There is a case, however, in which a healthy tooth, even if fractured, should be temporarily retained, and that is when it is the only tooth in the posterior fragment, and is therefore the only means of maintaining control of that fragment.

I have the radiograms of such a case which was treated with success in this manner. Fortunately, no pain was caused by the pressure of the splint on the exposed pulp. The splint on the fractured tooth was left in place until sufficient callus had formed to keep the fragments in place, when the splint and tooth were removed.

A word of warning about the extraction of teeth in children would not be out of place. If an unerupted permanent tooth is situated in the line of fracture it must be left there, although a temporary tooth so situated should be extracted. The reason for this is that the resistance to infection in children is very small and the extraction of an unerupted permanent tooth is inviting bone infection. If this occurs in a child it frequently takes on a serious aspect as osteomyelitis, and the patient becomes extremely ill.

The next step in the treatment is the reduction and immobilisation of the fragments. In many cases the condition is so slight that treatment by an extra-oral support, combined always with frequent irrigation of the mouth with a hot antiseptic solution, is all that is necessary.

One of the oldest is the four-tailed bandage. For this a piece of 3 inch bandage about a yard long is slit down at each end, leaving a piece about 6 inches long intact; a further slit is made in the middle of this for the insertion of the chin. This leaves two ends of bandage on either side; the lower two of these are tied on the top of the head, and the upper two are tied below the occiput. The four ends are tied together and the whole bandage is thus made secure; the pull of this bandage is in entirely the wrong direction.

Another of the older supports is the Hamilton sling. A leather strap is passed under the jaw and fixed on the top of the head; this strap passes through two loops in a piece of webbing, which passes around the head. These two are then prevented from slipping by another piece of webbing, which passes from the strap on the top of the head to the webbing below the occiput. This is quite efficient, but is a nuisance to put on and calls for a fair amount of tolerance on the part of the patient.

Other methods make use of a skull cap, which is united to a chin rest of some kind by cord or tape. These chin rests may be made in vulcanite or swaged in metal or moulded in gutta-percha; these skull and mandibular contrivances are just as efficient as the four-tailed bandage, and the Hamilton sling; perhaps more so, but both are now being replaced by the Kelsey-Fry bandage, which is a great improvement on them, since it can be more easily adjusted to exert the requisite force, and that in the right direction.

For this, a piece of 2 inch bandage about a yard long is used, and a slit a few inches long is made in the centre of it to accommodate the chin; the two ends of the bandage are knotted on the top of the head and the knot is divided. One part is taken down below the occiput and the other across the forehead; the ends of bandage are then pulled as tight as required and tied on the top of the head.

In the case of an edentulous mandible the only possible treatment, beyond such support as I have just described, is the insertion in the mouth of some appliances to keep the bite open. If the patient has dentures, and they have survived the accident more successfully than has the jaw, these may be used; they are put in place and the bandage applied.

If there are no dentures suitable for use, then a splint must be made. This takes the form of a block of vulcanite fitting the maxilla and mandible as dentures would; a gap is made in the front to allow of feeding.

There is a certain amount of disagreement as to what the treatment should be when there are teeth standing. To my mind the all-important point, next to obtaining osseous union, is to make certain that the normal bite is retained. Bearing this point in mind, consider a fracture behind the last molar tooth. The upper and lower teeth must be fixed together; this is done by means of ligature wire, which is twisted round the necks of a few teeth in both jaws. A bandage is then applied to relieve the strain on the wires as much as possible. Thus, the teeth are fixed in correct occlusion, and since no movement is allowed a fairly quick union results. It is in this type of fracture that the superior constrictor muscle of

the pharynx may give some trouble, since on swallowing it tends to displace the posterior fragment.

But there is another school of thought who consider that fixation of the mandible to the maxilla should *never* be performed. Their arguments are that by preventing the use of the muscles of mastication one allows them to atrophy; they admit that fixation gives excellent results so far as union and correct occlusion are concerned, but say that this treatment causes atrophy of the muscles and that gradual opening of the bite, massage and electrical stimulation are necessary to restore the muscles to normal; this strikes one as being a rather exaggerated description of what actually occurs. If union is obtained quickly —that is, in from two to three weeks, as it is by fixation—the muscles do not have time to atrophy to any serious extent. But even if they *do* need stimulation afterwards, surely a temporary disability of the muscles is a far less serious condition than a permanent incorrect articulation, which may not only affect the appearance of the patient, but also the comfort and general health. If there is any great displacement, splinting should definitely be performed, but fixation should not continue any longer than is necessary. This is especially important in the case of children. With them it must be remembered that the process of tissue formation is extremely rapid; thus, if a splint is left on for a long time, besides being unnecessary, it is harmful, since ankylosis of the temporo-mandibular joint will very probably occur.

All forms of treatment more complicated than this simple intermaxillary wiring and bandaging require a model or models on which to make the apparatus, which takes the form of a splint of one kind or another, and for these impressions must be taken.

In such a case there is a certain amount of displacement, so that it is not possible to use an ordinary stock tray. A rough impression is therefore taken in composition without the use of a tray, and from this a special tray is made. With regard to this there are two points to notice; an impression of the teeth is all that is required so that pain may be spared by using a shallow tray so that the composition does not aggravate the wound in the gum, and plaster must not be used owing to the risk of small pieces coming loose and remaining in the wound. The models are then made and the way in which they are used depends upon the particular case in respect of the displacement.

As an example of the method employed by those who disagree with fixation, I will explain Dr. Guy's method. If there is no displacement he takes an impression in the ordinary way and on his model he makes a kind of frame. This fits loosely round the gum just below the teeth, leaving the latter entirely free. This is quite a good treatment, since it does as its originator claims, prevent any excessive movement of the fragments, and also it is easily removed by the patient for cleaning. But, if there is any displacement, Dr. Guy still does just the same by immediate reduction of the displacement. The patient is anæsthetised if necessary, the displacement is reduced by digital pressure, and while an assistant keeps the fragments in place the operator takes the impression. The frame is then made and inserted and a sling is applied for a short time to exert a gentle upward pressure. The advantages claimed for this method are that it is clean, comfortable and efficient. The disadvantages which one is inclined to attach to it are that (1) the operation of immediate reduction is in many cases impossible to perform, and (2) that the frame *cannot* keep the fragments perfectly still and in apposition; in other words, it is not efficient, for movement of the fragments, besides causing pain, causes delayed union.

An appliance which was used a very great deal at one time is the Hammond splint. This can only be used when there are several teeth in each fragment and when there is very little or no displacement. It consists of a piece of thick soft iron wire, which passes round the arch on the lingual and labial sides of the teeth and behind the last molar teeth; the latter are fixed to this by ligature wire passed round the necks of the teeth. This apparatus is easy to make and is fairly efficient, and it is possible to reduce a small displacement by gradually tightening the wires, but it is not too clean and is uncomfortable.

The apparatus which comes nearest to the ideal is the metal cast cap splint, which in its simplest form is merely a metal cap fitting all the teeth. There are divergent views on how this splint should be made. Some prefer to cover the teeth with a thin layer of wax before taking off their wax pattern, so that the splint will fit the teeth loosely; others prefer to have the splint fitting the teeth very tightly so that a certain amount of force is necessary to get it on. This would seem the better way, since one is not relying then so much on the strength of the cement with which the splint is fixed in place. Again, some cut away that part of the splint which would cover the occlusal surfaces of the teeth to allow a perfect occlusion; others do not do this, their contention

being that in doing so one is again falling back on the cement for strength. This, however, is a small point since, if the splint is removed at the right time, the callus which has formed will be malleable enough to allow the *extremely* slight mal-occlusion, caused by the thickness of the splint, to remedy itself.

When writing this paper I tried at this stage to tabulate in some way the treatment for the different cases, but I came to the conclusion that such a course is impossible. It is possible, however, to explain the methods employed in some actual cases, thus illustrating the general principles of treatment which must be applied to the requirements of any particular case. I have already stressed that the cast cap splint is the best one in use owing to its efficiency—which includes strength and cleanliness—its comfort and the comparative ease with which it is made, but now we come to another point in its favour, which is its adaptability.

Some of the cases which I am just going to explain to you, and which I have referred to as "actual," are really imaginary, owing to my being unable to obtain records of similar ones, but they *do* occur.

Consider a fracture in, for instance, the canine region, there being no displacement and with all the teeth standing. A splint may be unnecessary in that union would occur without one, but if a cast cap splint is fixed it is a great advantage to the patient that he can move his jaws quite normally the whole time he is being treated; moreover, the splint is quite comfortable and is easy to keep clean. If with this fracture there is displacement which it is found possible to reduce immediately, the splint is made as follows:—

Impressions of both dentures are taken and models made. The mandibular one is cut in two at the site of fracture and the two parts waxed in articulation with the maxillary model and fixed together by plaster. A splint is then made to fit this reconstructed model and another to fit the maxilla. Studs are soldered to both splints. The displacement is then reduced, both splints are fixed in position and the jaws wired together by ligature wires passed round the studs.

In one case it was found impossible to reduce the displacement immediately. Accordingly, no reconstruction of the model was necessary, but the mandibular splint was fixed in the mouth in two pieces. Wires were applied as in the previous case and were gradually tightened each day until the teeth were drawn up into their correct occlusion; the splints were then left in to keep the displacement from recurring.

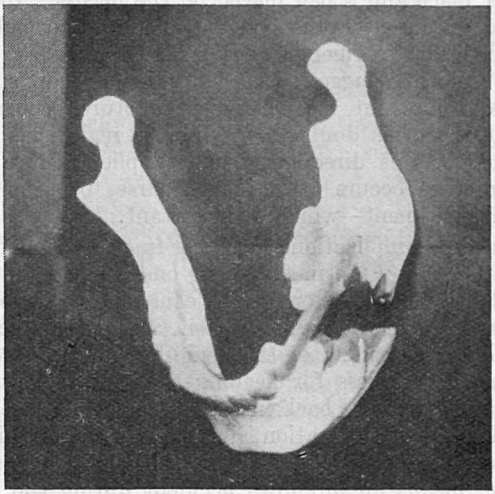

FIG. 2

Fig. 2 shows a model which was reconstructed from a case. There was considerable lateral displacement of the larger fragment, but very little upward displacement owing to the presence of occluding maxillary teeth, and the apparatus seen here was used to reduce that displacement and to keep it reduced. A splint was made in two parts and an arm was fixed to that on the larger fragment and was bent slightly inwards so that the tendency was for it to straighten itself, thus exerting a lateral pull. Wires were fixed to this and to the smaller splint and gradually tightened.

There is still one type of fracture which I have not mentioned, and that is a vertical one at the symphysis complicated by branching. The obvious displacement occurred, the triangular fragment was pulled downwards and backwards. The difficulty here was not in reducing the displacement, but in keeping it reduced and keeping the fragments immobile, and Fig. 3 shows the apparatus which was used. The splint was cemented

FIG. 3

in place and a pad placed on the plaster; owing to the hinge it was possible to move the pad up until the fragment was secured in place.

Another suggested use of the cast cap splint is to prevent a pathological fracture occurring. It is rather doubtful whether it really has any use in this direction, but if applied before the fracture occurs it does, of course, prevent any displacement—which is important.

The complications following fractured mandible are many; the most serious one is instantaneous death. The only one which causes this is a double fracture in the canine region. When this occurs the attachments of the genio-hyoglossus muscles become useless for keeping the tongue forward, so that it goes back into the pharynx and causes death by suffocation, but, fortunately, this is rarely met with in civil life, although it was by no means an unknown accident during the war.

Non-union may occur and is most frequently caused by the presence of a tooth in the line of fracture. This does not occur so often now as formerly, since such a condition is nearly always seen in the X-rays beforehand.

And, while on the subject, one may point out to what extent an X-ray photograph helps in showing whether or not union has occurred. It shows only one thing, and that is a non-union; if perfect bony union has taken place it will still show on the plate as just as perfect a break as it did before treatment was started. If, however, one is dealing with a case of genuine non-union, the X-ray has a very characteristic appearance. The ends of the fragment are shown rounded off.

If there is a wide space between the broken ends of bone there will probably be no union. This is owing to the fact that the periosteum covering the mandible does not aid, at any rate very greatly, in the formation of new bone, this being formed, in the case of the mandible, by cells derived from the bone marrow. Such a space may be caused by necrosis or infection, and this is, therefore, one of the chief reasons why no more risk of bone infection should be incurred than is essential. If this does occur the treatment, of course, varies with the case. If there are only a few teeth or none standing, and if the space is not very large, then the ends of the bones must be freshened and resplinted in firm apposition, when union will generally follow. If, however, most of the teeth are present, this procedure will spoil the articulation, so that a bone graft is necessary, as it is also if there is a large space; this is an operation which needs very great surgical skill, and is one for a general surgeon to perform.

The causes of a wide space between the fragments are, firstly, incomplete reduction, which should not occur, since, if there is any doubt as to whether the ends of bone are in apposition, a radiograph should be taken and the defect remedied early. Secondly, necrosis; in many cases this is an unfortunate sequel, against the occurrence of which every reasonable precaution has been taken. In others it is due to the lack of co-operation of the patient, and it may be caused, as it so often is in hospital cases, by the filthy state of the mouth prior to the injury. With this necrosis an abscess will probably form; the proper thing to do in such a case is to open the abscess from the outside immediately. Often these are opened inside the mouth presumably in the hope that the pus will drain upwards, but it is a very risky proceeding to trust to hot mouth washes to overcome the force of gravity as well as the tendency which pus has to make its way to the surface. Therefore, a deep incision should be made from the outside and a drainage tube inserted. If this treatment is unsuccessful the site must be opened up and the ends of the cone scraped and the jaw resplinted.

Non-union may also occur through infection of the bone, usually originating from septic teeth, and causing either a rarefaction or a sclerosis of the bone.

When the defects causing non-union have been remedied successfully, the case then becomes one of *delayed union*, but this is brought about most often by incomplete immobilisation of the fragments, and implies rather that union has been proceeding all the time, though slowly. It seems also to be caused by old age, when the reparative process is slow; imperfect reduction is also at times responsible. The condition of delayed union may progress in one of three ways. It may become a case of non-union; fibrous union may occur —in this process the ends of the bone become rounded off and are joined by fibrous tissue, thus forming a false joint—or by suitable treatment osseous union may be brought about. The treatment is to remove the cause where possible—*i.e.*, immobilise properly or reduce properly.

The other fairly common sequel is the condition of mal-union; in this condition union has occurred, but with the fragments in the wrong position, causing, in come degree or other, a mal-occlusion, and it is always brought about by incomplete reduction. The kind of case in which one most frequently sees this is when the patient has been the victim of an accident in which he has sustained such injuries that the fractured jaw is, in comparison, a minor affair, and treatment of this has been neglected—no doubt, in many cases this neglect is excusable, but not always. I have in mind one case in which the

patient suffered very severe injury and after many weeks in hospital was sent to Guy's for his fractured mandible to be treated. Among the papers he brought with him was one on which appeared a diagnosis to the effect that his mandible was fractured in *five* places. Three of these fractures had mended with slight mal-occlusion ; the other two were not mended at all, one of them having a root in the line of fracture. The only treatment this patient had been given for his fractured jaw was mouth washes and a very inefficient kind of support.

The treatment of mal-union is as varied as the condition, and in very slight cases may consist of " grinding-in " the bite, but in very bad cases the only hope is to refracture and try again ! There is a case between these two extremes. Consider a fracture behind the last standing tooth ; if the case is not treated there will probably be upward displacement of the posterior fragment, and in many cases this will result in the soft parts of the lower jaw being brought into firm contact with a tooth in the upper jaw. The patient may tolerate this for a time, perhaps long enough for osseous union to take place. But, eventually, when the soft tissues begin to ulcerate, the patient will acquire a bite of comfort ; he will bring the jaw over to the injured side to avoid any pressure on the sore part. The treatment is to remove the tooth which has aggravated the lower gum and then to correct the bite by an engaging flange or inclined plane, which does not allow the mouth to be closed without bringing the jaw gradually more and more into its correct position.

Current Cases

I.—A Case of Cerebral Tumour

FREDERICK L——, æt. 60, a bricklayer's labourer, was admitted complaining of headache.

His previous history was unimportant. *Two years ago* he began to get headaches, mainly frontal, and more on the left than the right. *One year ago* his employers complained to his wife that his work was deteriorating and that he was doing stupid things ; all his previous life he had been a steady worker.

His wife noticed that he would get up in the middle of the night and start dressing to go to work. Sometimes for whole days he would be confused and forget where he was, but during remissions he was mentally clear.

He had never vomited, he had no disturbance of vision and no fits. Micturition was frequent, but there was no incontinence. On examination of the central nervous system the following abnormal signs were found :—

Intelligence—

Confused. He did not realise he was in hospital, but said he was on a job of work. He recognised relatives, but did not remember his address. He could not answer questions clearly.

Cranial Nerves—

(1) He was too bad a witness for accurate testing.

(2) Two dioptres *swelling of the right optic disc* ; some exudate around vessels. Veins somewhat distended. The *left disc* was pale ; no papillœdema.

Perimetry revealed a small central scotoma in the *left visual field.*

(7) Some emotional weakness of the *right* side of the face. There was also slight *left sided proptosis.*

Motor System—

Right arm and leg slightly spastic.

Reflexes—

Right plantar response doubtful.

There was a generalised *coarse tremor* in all limbs on exertion.

No other abnormal signs were noted in the central nervous system.

The cardiovascular system was normal. Blood pressure 145–80. Respiratory system, pulse, temperature and urine were all normal. X-rays of the skull showed no abnormality. *Lumbar puncture* showed a pressure of 210 mm. water, rising to 400 mm. on jugular compression—*i.e.*, almost twice the usual figures. There was no block and no white cells seen in the cerebrospinal fluid. Protein .08 per cent.—about twice normal. Wassermann was negative in blood and fluid.

This completes the case as far as examination was concerned. The task remained, in the manner of Dr. Thorndyke, to fit the various clues into a diagnosis first of localisation and, secondly, of pathology. No one sign was of certain localising value, or was even striking in itself, but the various minor observations were as straws, all showing the wind blowing in the direction of the left frontal area.

(1) The long history of headache, with increased cerebrospinal fluid pressure, suggested *cerebral tumour.*

(2) Left-sided optic atrophy—pallor and central scotoma—with right-sided papillœdema suggested

firstly *increased intracranial pressure*, and, secondly, the possibility of the tumour *pressing on the left optic nerve* and causing directly the central scotoma.

(3) The right-sided spasticity and doubtful plantar response indicated an *upper motor neuron lesion* with a *left*-sided cerebral localisation.

(4) The left-sided proptosis favoured a *left-sided tumour*.

(5) The generalised coarse tremor is characteristic of *frontal lobe* lesions.

(6) The mental deterioration suggested a *frontal lobe lesion*.

Localisation of a tumour in or pressing on the left frontal lobe was thus decided on ; the presence or absence of anosmia might have helped in deciding if the tumour was pressing on the olfactory bulb or tract, or if it were posterior to it. As to pathology, in view of the long history, it was thought that of the two commonest types of frontal tumour a meningeoma pressing on the lobe was more probable than a glioma of the lobe itself. In view of the good chance of removing a meningeoma and relieving the mental deterioration and threatened blindness, an operation was advised.

Mr. Bromley raised a left frontal flap. The dura was very adherent to the cranium. On exposure the frontal lobe bulged and the convolutions were flattened. Aspiration of the left lateral ventricle yielded about 15 c.c. of clear fluid. The frontal lobe was raised with some difficulty and a tumour about the size of a plum was found resting on the lesser wing of the sphenoid. The tumour, which was fairly soft and attached to the meninges by a pedicle, was removed. Unfortunately, the patient stood the operation badly and died of shock the same day. Post-mortem examination showed that the tumour had moulded itself a bed between the frontal lobe and the tip of the temporal lobe, where it would have pressed on the left optic nerve. Professor Nicholson reported that the tumour was a vascular meningeoma.

The collection of fluid in the left lateral ventricle was possibly due to blockage of the foramen of Monro.

My thanks are due to Dr. Symonds for permission to publish this case.

S. A.

A PERUSAL of certain articles occasionally published in this journal would suggest a dinner given by the Dental Society to be an exceedingly fibrous repast, eked out with drinks that could only be described as antiseptically collutorial. The appearance of F. C. T.'s poster in the Colonnade, strangely enough, lent no support to this idea. The gentleman therein depicted was evidently engaged in the consumption of something infinitely more attractive than Mist. Pot. Chlor. et Ferri, and, however baffling the nature of his costume, thoroughly enjoying himself. The whole notion was finally exploded last Saturday evening, when on the occasion of what is essentially an annual reunion of old Guy's dental men, the Grand Hall of the Hotel Cecil managed to accommodate nearly 300 diners. The meal itself proved to be anything but fibrous ;

there was not a locust to be seen, while the concomitant gargarisma were of a well known and thoroughly reliable potency.

With grace pronounced by the Chairman, Mr. E. A. Lloyd, members and guests sat down to the palatal stimulation of the initial courses, while Mr. Greenway's band proceeded to assist digestion and to drown the earlier silence, which later went by the board in the enthusiasm of reunion and reminiscence. Before the talking starts at a function of this kind a good band is necessary; when it *has* started no band on earth will command attention. Mr. Greenway's trumpet is to be congratulated on his solo efforts; subsequent drainage operations to his instrument revealed the salivary price at which those bell-like top notes were held while steaming platters of *Noisette d'Agneau Clarence* passed under the poor fellow's very nose. So to the loyal toasts, permission to smoke and the several speeches of the evening.

Rising to propose "Guy's Hospital and Schools," Mr. H. L. Eason, C.B., C.M.G., M.S., felt himself to have usurped the privilege of another among those present, namely, of Mr. F. P. Whitbread, Treasurer to the Hospital. For this time-honoured toast he could not possibly do better than seek inspiration in one of the successful posters used by the Treasurer's firm. There was no place quite like Guy's, and every Guy's man, medical or dental, took away with him a deep-rooted affection for the scene of his training. A gentleman might be defined, with all due deference to Mr. Greenway's band, as one who *could* play the saxophone—but *didn't*. There was another definition, that given by a small boy (small boys should be seen and not heard Ed.) Reviewing the year's activities, not least among them was the welcome return of the Rugger Cup, and the collection in the streets on Cup Final day of a record sum of money, all between stark sobriety in the early morning and a—well, more fatigued condition later on. He regarded Mr. Lewin Payne's retirement in June with great regret; they were unfortunate to lose so worthy a successor to Mr. Hopson.

As Superintendent he had made his home at Guy's for many years and was not ashamed to say it would break his heart to have to leave it.

Responding, Prof. T. B. Johnston, M.B., Ch.B., found consolation in the fact that however much the Hospital and Schools owed to individuals they had in a sense grown up to independence. Mr. Lewin Payne's retirement would be a great loss, and they would find it extremely difficult to replace Mr. Kelsey Fry, who was also leaving in the near future.

The way in which the sons, and even grandsons, of old Guy's men were coming along for training was a comforting index of the School's continued prosperity. A visit to his office was usually connected with disciplinary matters, but not always, as, for instance, when an old offender had surprised him into lending a sum of money. In some ways on an occasion like this he felt like the office boy who, when overheard offering himself for employment by telephone, had stated that he was merely finding out exactly how he stood with his employers.

There was no need to doubt the continued and ever increasing success of the School, to whose activities in the past the numbers attending the dinner bore such a striking testimonial.

At this juncture Messrs. R. and P. H. Lomax sought syncopatic inspiration in a short pianoforte duet and then proceeded with a vocal offer to do

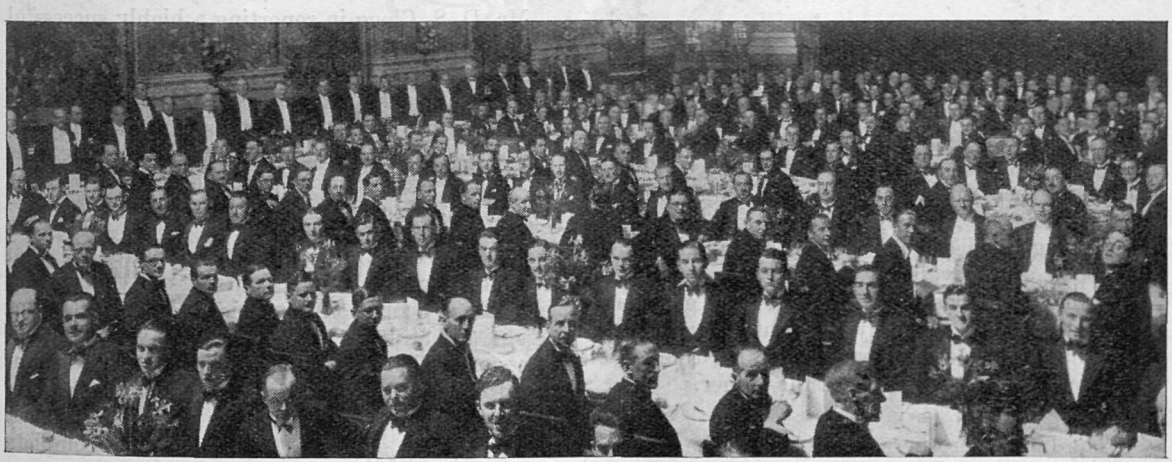

Photo by Swaine 146, New Bond Street, W.1

The Company at Dinner

any and every kind of Dirty Work. Encouraged by the substantial applause produced by their efforts, they obliged with a suitably pruned edition of *Frankie and Johnnie*, something between the Sunday School version and that usual at a Residents' Dinner. This was a great success.

Mr. J. Lewin Payne, O.B.E., proposing "The Visitors," expressed his thanks to those who had spoken of his departure in such a kindly manner. He felt that the average speaker in such circumstances broke up his speech into two parts. The first a protest that of all people he—the speaker—was least suitable to propose the toast. The second a revelation of himself as the only possible candidate for such a task. He was reminded of the successful builder who in his first public speech remarked that he was more suited to the scaffold than the public platform.

The Hospital possessed an excellent motto. *Dare quam accipere* could be exemplified in many ways, as, for instance, by the patient with the broken jaw who when asked what had happened to his assailant replied, "Oh, he's in Astley Cooper now."

He wished in leaving to pay tribute to the service and devotion in both time and money of their present Treasurer and to the name of J. H. Badcock, under whose teaching he had come to regard dental surgery both as a science and an art. They had with them that evening representatives of the British Dental Association, of the Examining Board of the Royal College of Surgeons, whose members many among those present had had the opportunity, if not the pleasure, of previous acquaintance, of the Army Dental Corps and, in Surgeon-Captain Fletcher, of the Naval Dental Service. In conclusion it was to be hoped that the visitors had enjoyed the function as much as he the pleasure of their company.

Surgeon-Captain Fletcher, R.N., O.B.E., rendered thanks on behalf of the visitors. Guy's men were always strongly represented in the Naval Dental Service and he hoped that the tradition would be maintained. They owed a great deal to the post-graduate teaching afforded by the Dental School and, contrary to prevailing opinion, entry into the Naval Service did not entail any scrapping of ideas, but rather the reverse in the shape of an unrivalled opportunity to carry them to fulfilment. Unlike the intoxicated gentleman w[illegible]ould speak tolerably well, but knew not when to stop, he would close with congratulations to all concerned on a most successful dinner.

The Lomax brothers now felt that the audience ought to know *What Drives a Man to Drink* Apparently it was simply "Nerves," and by this time considerable nervous instability was already in evidence, for a Turkish gentleman felt obliged to render some quite unofficial and rather accidental assistance on the drum. The Co-Optimistic *Allouette* followed as an encore conclusion to the second interlude; no persuasion was necessary to obtain a full chorus of the nervous.

Mr. E. B. Dowsett, D.S.O., in proposing the health the Chairman, related how in spite of the war and a late start Mr. Lloyd had already achieved considerable success in his chosen career, and could look forward to the future with every confidence. Regular exercise on foot with the family motor car had, no doubt, been one of the secrets of his success.

The toast of the "Chairman" was drunk with great enthusiasm and accorded musical honours.

Mr. E. A. Lloyd, L.D.S., in reply modestly offered thanks for all the nice things that had been said. Mercifully, a great deal had been left unsaid. For his own part he would rather drink six toasts than reply to one. Although he had grave doubts about the *learned* nature of the Society whose chair he occupied, there could be no mistake as to the eloquence displayed at the meetings, for which they could claim an average attendance of over 70 members. He felt that the attendance at the preliminary tea was on the whole rather larger. That he had been Mr. Hopson's house surgeon was his sole excuse for relating a story—perhaps it would be regarded as sufficient since the story seemed to be a good one (*Too* good for publication.—Ed.). He would like to congratulate Mr. D. S. Clogg, the Secretary, on the smooth working of the complicated arrangements necessary for a dinner on such a large scale.

Mr. D. S. Clogg in reporting a highly successful season, wished to thank the Hon. Treasurer, Mr. H. O. Lyne, and members of the committee for their valuable assistance in all matters of management and the Chairman for his ready assumption of the role of prop and mainstay in the discussions that had been such a valuable feature of their programme.

A general breaking up into groups for the final chat, the Lomax brothers putting a little more sin into the syncopation, cup finals being fought over again, and an utter absence of shop were final impressions. The Dental Society are to be congratulated on an affair that from the flash of the preliminary photograph to the bang of the last taxicab door can be regarded as a complete success.

"Physical" Impossibilities

IV.—"TAFFY"

"If white is white to every man,
He makes it black—or black and tan"

Maternal Impressions

A Paper read at a Meeting of the Guy's Physiological Society, February 26th, 1929, by Mr. J. Tudor

MR. CHAIRMAN AND GENTLEMEN,—In these unphysiological days maternity has become the career of the few. As a consequence, a baby has become a dominating factor in our social system. A baby is regarded as a great responsibility—or a great nuisance. Expectant mothers in their quest for bigger and better babies are demanding to know more about "medical matters," to use their own expression.

As a consequence all sorts of old wives' tales are in circulation. The market is flooded with relevant literature, mostly sensational in character. A successful pregnancy seems to be the prerogative of Super Women—at least, the average housewife is beginning to think so!

Even healthy women are exhorted to attend special clinics for periodical examination. No wonder, then, these women tend to regard their condition as pathological rather than physiological. Some go further still and actually develop all sorts of vague fears concerning their unborn child. They assiduously avoid excitement and unpleasant sights. They cultivate beautiful thoughts and pleasing phantasies.

This raises the question, "Has the state of the mother's mind any effect on the development of the fœtus?" The physiologists say, "Of course not! The fœtus grows up pure and unspotted from the world!" Clinicians, very wisely, are not so dogmatic.

For instance, William Brown, in his work *Mind and Personality*, says: "It has often been observed that children of parents who do not get on well together are frequently unhappy and frequently neurotic. The explanation that is sometimes given is that the absence of love in the parents really affects the young child before it is born. That may be so, or it may not."

However, the balance of evidence tends to show that these psychoneuroses arise from maladjustments to environment during *extra—uterine* infancy. I resolved to explore more extensively. I can assure you that I read "not to contradict and confute, nor to believe and take for granted, but to weigh and consider." However, it was found that the evidence, for and against, the efficacy of maternal impressions was very meagre as to detail.

Here are some of the best recorded cases. Wallace reported the following case at a meeting of the British Association.

A labourer had his arm badly crushed in some machinery. As a nurse was not obtainable the farmer's wife had to assist the doctor during the amputation. Some time later this lady gave birth to a child with the corresponding arm missing. Personally, I blame the umbilical cord for depriving the child of its arm! The cord can sever an embryonic limb just as neatly as wire can saw through cheese.

In a discourse, published in 1698, a Sir Kenneth Digby referred to the dread of James I at the sight of a drawn sword. He attributed this fact to the fright sustained by Mary, Queen of Scots, when her favourite Rizzio was murdered in her presence while she was actually pregnant.

Or, to descend to the level of the farmyard, we have Jacob's classical experiment with Laban's cattle. During their pregnancy the stronger flock were allowed to gaze at green rods from which rings of bark had been peeled off. These cattle produced striped, spotted and speckled offspring. However, the Book of Genesis has been described recently as "religious mythology," "blinkers for the religious mind," and so on. But a famous breeder of cattle has assured Prof. J. A. Thompson that he has followed Jacob's prescription with success. This man wanted a particular coloured calf from a cow, but, feminine-like, it persistently refused to produce what he wanted. So he had the cow blindfolded. After the sire had gone he brought to her a heifer of the desired colour, and that was the first object she saw when the bandages were removed. She was left with the heifer as a companion to occupy her mind, and the result in due time was a calf of the desired colour.

Personally, I fail to see how these maternal impressions can be mirrored in the fœtus, and I claim that these three cases are mere coincidences.

However, some of the cases seem to be more than coincidences.

In 1832 Dr. Winslow stated at a meeting of the Westminster Medical Society that during the horrors of the French Revolution an extraordinary number of monsters and idiots were born. This he ascribed to the mental stress undergone by the mothers. Dr. Addison, the famous Guy's man, in reply declined to approve or reject the suggestion, but he said that it may have had some effect.

The output of mentally and physically deformed children was again increased during the siege of Paris in 1871.

Now, during the Great War, we did not have a siege of London, but we had air raids, Zeppelin raids, rumours of invasion, of famine, of cruelty to relatives in German prison camps. Moreover,

a notable feature of to-day is the number of individuals who are emotionally unstable. Mothers who gave birth to neurotic children during the war blame the horrors of war existing during their pregnancy.

Prof. Cyril Burt, psychopathologist for the schools of the L.C.C., writes: "It is conceivable that the mental shock received by the mother —during an air raid—may have affected the child's development, but, even so, when temperamental instability is the most conspicuous result, I am inclined to attribute it more to the general influence of the mother's strain on her physical condition than to any direct influence such as is pictured by the imagination and so often assumed in current advice given on pre-natal care."

At Guy's, Dr. R. D. Gillespie relates how some patients explain that their nervousness is due to a shock their mother sustained during pregnancy. However, he thinks the matter needs further investigation before such a notion can be approved or rejected.

At his own suggestion he agreed to look out for any relevant cases where there was definite evidence. However, after three months he was not able to report any such case.

Notwithstanding this, I do hold that shock and emotional disturbances in the mother do influence the morphological development of the fœtus to some extent.

Anatomists, with one voice, deny the existence of nerves or nervous tissue in the placenta and umbilical cord. However, the fœtal circulation has only two layers of endothelial cells separating it from the maternal blood. There is abundant evidence to show that this membrane is permeable to colloids as well as crystalloids. Thus, any increase in the concentration of the constituents of the maternal blood will be followed by a corresponding alteration in the quantitative composition of the fœtal blood.

Cannon has shown that emotion has a profound effect on the quantitative composition of blood, through the autonomic nervous system. In fright, increased amounts of adrenal and thyroxin are secreted into the blood stream. The adrenalin raises the blood pressure and stimulates the thyroid to produce thyroxin, which abolishes existing muscular fatigue and increases the rate of metabolism.

Dr. Myers and Dr. Wallis have observed that in neurotic children—*i.e.*, children in a continual state of physical or mental fright—their blood calcium is only half that of the average child.

Thus, neurotic women will give a fœtus less calcium than a well-balanced woman does. And we know that tissues in solutions deficient in calcium salts are more excitable. This is aggravated by the fact that the endocrine glands of the fœtus do not function in their entirety till the fifth month at the earliest.

Winslow's case of the monsters born during the Reign of Terror seems to be due to communicated endocrine disturbances. During that period of time women were common property. They could be violated or murdered at will. Naturally, they would be in a continual state of terror, always ready for flight. The fœtus would share in the hyperthyroidism and hyperadrenalism. Growth would proceed at a tremendous rate and monsters would result.

This theory is supported by the fact that when the thyroid gland is stimulated in pregnant animals by continually feeding them with fæcal cultures, all the offspring are cretinous and deformed. This experiment has been done by M'Carrison in India and Mayo and Plummer in America.

However, I know of no case where psychogenic constipation in the mother has led to deformed offspring. Moreover, Dr. Hurst blames purgatives for the occurrence of intestinal toxæmia and not bacilli.

M'Carrison, however, goes on to say that the offspring of women suffering from that condition of hyperthyroidism, Graves' disease, are always abnormal in some way. And fright is very often the last link in the chain of events that leads to the onset of Graves' disease.

M'Carrison says that he can account for 40 per cent. of his cases of cretinism by the occurrence of shocks to the mother during gestation. Here is one of five such cases quoted in his work *The Thyroid Gland in Health and Disease*: "The mother is goitrous. The first five children died young, and the deaths of several of these occurred during the mother's seventh pregnancy. This seventh child is a cretin and a deaf mute, whereas the sixth is healthy. She attributed her evil fortune to a spirit which preyed greatly upon her mind during her seventh pregnancy. Afterwards the "priest exorcised the spirit." Her eighth child was born normal and is alive and well."

The expression of the emotion of grief apparently drained the limited supply of thyroxin so much that the fœtus developed a condition of thyroid starvation leading to cretinism.

A somewhat similar case was reported by Dr. Addison:—

"A woman somewhat advanced in pregnancy attended a London pantomime. She became quite fascinated with the appearance of the clown. It made such an impression that it haunted her during the remainder of her pregnancy. After a

normal confinement she gave birth to a full size child. However, the normal red pigment was laid down in patches, exactly like a clown's make-up." The child soon died and was preserved in the Museum at Guy's.

Unfortunately, no report of an autopsy is given. As a guess I would suggest as a diagnosis—disorder of the adrenal cortex. Adrenaline is known to be one stage in the formation of pigment in the skin.

The obsession of the mother for the thought of the clown's appearance was a substitute for a longing for something incompatible with her self respect and the morals of the herd. The obsession was merely a symptom of endo-psychic conflict—a soul divided against itself.

Such patients are easily fatigued, which is rather suggestive of endocrine lack in the muscles, if no where else. Then the fœtus would have to give up some of its feeble endocrine secretions to the mother. This endocrine lack produced in the fœtus would interfere with the production of pigment.

In summing up I would say that the only way that the maternal mind can influence the fœtus is by disturbing the balance of the endocrine system of the fœtus.

The fact that contemplating the beautiful does not produce beautiful offspring is shown in the case of Isadora Duncan, a famous disciple of the beautiful. Her children were so ordinary that she is said to have proposed to George Bernard Shaw a joint test of eugenics !

Mr. Cook reports a case where an expectant mother, a factory worker, had seen a man lose three fingers when his hand was caught in a machine. Her baby arrived with only two fingers on one of its hands. This tale, upon investigation by Mr. Cook, proved to be quite true. But what caused this local arrest of development we do not know.

Two sisters, both pregnant, were assisting their aged mother across the floor when the old lady had a stroke. The facial paralysis was very marked. Both sisters some months later gave birth to a child with facial paralysis. They attributed it to that shock, but I attribute it to injury of the facial nerve at birth. You will remember that this nerve is very superficial in the newly born, there being no mastoid process at that time to protect it from pressure.

In conclusion, I would like to thank Professor Pembrey for many helpful suggestions as to literature, etc., also Dr. Gillespie, Dr. Poulton, Dr. Scholefield, Mr. Cook, Mr. Evans and Mr. Dence for their help.

Correspondence

Asthma Scourge

To the Editor of the GAZETTE

SIR,—Good progress is being made in the national campaign for the scientific investigation of asthma, hay fever, eczema, migraine and allied diseases which, it is estimated, afflict at least half a million of our people.

At Guy's Hospital a team—including a clinician, biochemist, bacteriologist, immunologist, rhinologist, psychologist and radiologist—is already at work. Here a number of patients are being subjected to an exhaustive investigation which has already disclosed a constant deficiency of certain elements in the blood, the correction of which it is hoped may relieve or even permanently cure the condition.

Equally promising is the work now being undertaken at the newly formed clinic at Great Ormond Street Hospital for Sick Children, where asthma is being attacked at its simplest and most curable stage. The association of asthma with cyclic vomiting, epilepsy, migraine and skin disease is being investigated at this centre.

At the London Clinic, Ranelagh Road, S.W. physical methods of treatment, including medicated inhalations, ultra-violet radiation, diathermy and breathing exercises are being carefully investigated by a physician who has visited the principal asthma spas on the Continent, including Mont Dore, Bad Reichenhall and Ems.

It is proposed to give a grant to St. Mary's Hospital, where active research on asthma has been carried out for the past 18 years. It is also proposed to appoint a research worker at King's College, London University, to study the experimental production of asthma and the effects of drugs which relieve the paroxysm. At Brompton Hospital arrangements are being made to investigate the relationship of asthma to general respiratory diseases. A grant is also required by the London Hospital for examining the effects of X-ray therapy, of which encouraging reports have been made.

So keen is the national desire to forward this work that a number of institutions in the provinces have agreed to provide research facilities as soon as the necessary funds permit. These include

Bristol University, Sheffield University, Stobhill Hospital, Glasgow, Manchester Royal Infirmary, Birmingham General Hospital, Liverpool Royal Infirmary, Leeds General Infirmary, Bristol Royal Infirmary and the Royal Victoria Hospital, Belfast. The Edinburgh Asthma Enquiry Committee, which has been carrying out a statistical investigation of asthma for the past eight years, is also co-operating.

Medical sub-committees are being appointed to enquire impartially and without prejudice into the claims of osteopaths, homeopaths, Nature curers and others to treat asthma and its allied diseases, and no line of investigation which gives any promise of increasing our knowledge of these mysterious disorders will be neglected.

An interesting feature of the campaign is the appeal which is being made to asthmatic sufferers to co-operate. All sufferers and the parents of all children suffering from asthma in Great Britain and the Overseas Dominions are being invited to assist the campaign not only by subscribing but by filling in family history forms, which, it is hoped, will give valuable information as to the influence of heredity in asthma and its allied disorders. A report of progress will be published annually and will be supplied to subscribers and the Press.

The estimated cost of the campaign is £50,000, of which approximately £5,200 has already been received in gifts and promises. This is a work of such great national importance that the comparatively small sum required to secure its fulfilment should be readily forthcoming. We earnestly hope that every sufferer from asthma, hay fever, eczema and migraine who has not already sent a donation will do so without delay, and that the campaign will also receive the support of all persons of public spirit. Donations should be sent to Sir Albert Stern, K.B.E., C.M.G., Hon. Treasurer, Asthma Research Council, London Clinic, Ranelagh Road, London, S.W.1, and applications for the family history forms should be made to the Secretary at the same address.

Yours, etc.,

DUFFERIN AND AVA,
GREENWAY,
H. R. L. SHEPPARD,
ALBERT G. STERN,
BEN TILLETT.

Sport

Golf.

THE replay of the Semi-Final round of the Inter-Hospital Golf Challenge Cup resulted after a very keen struggle in a second draw —6 matches all.

W. J. Cotton played well to beat his opponent by 4 and 3, particularly as he had only just recovered from a recent illness. Perhaps the most exciting match was in the foursomes in the afternoon in which H. B. Thornton partnered by W. L. Mountain won their match on the last green by a splendid putt by the latter, having halved 12 consecutive holes. It proved an excellent day all round.

SINGLES

Guy's		*St. Thomas's*	
W. Lewis	0	Yardley (3 & 2)	1
J. Johnstone	0	Robinson (6 & 5)	1
H. Cameron	0	Nutt (4 & 3)	1
H. B. Thornton	0	Harper (4 & 3)	1
P. H. Lomax (3 & 2)	1	Albury	0
C. D. Malone (2 up)	1	Clayton	0
W. J. Cotton (7 & 6)	1	Light	0
W. L. Mountain (2 & 1)	1	Blake	0
	4		4

FOURSOMES

Guy's		*St. Thomas's*	
W. Lewis and P. H. Lomax	0	Robinson and Harper (3 & 2)	1
H. Cameron and J. Johnstone	0	Nutt and Yardley (2 & 1)	1
H. B. Thornton and W. L. Mountain (2up)	1	Light and Blake	0
C. D. Malone and W. J. Cotton (3 & 2)	1	Clayton and Albury	0
	2		2

6 matches all.

H. B. THORNTON,
Hon. Secretary.

Guy's Hospital Dental School

DIRECTOR OF THE DENTAL PROSTHETIC LABORATORY

Applications are invited for the above post. The Director has charge of the Dental Prosthetic and Metallurgical Laboratories, and must be prepared to give Demonstrations in Dental Metallurgy. Salary, £600 per annum. Duties will commence on September 2nd, 1929, and the appointment is for two years, with eligibility for reappointment.

Applications should be sent in not later than April 30th, 1929, to the Dean, Guy's Hospital Dental School, London Bridge, S.E.1, from whom further particulars may be obtained regarding the duties of the post, etc.

Hospital Information, etc.

Pass List

ROYAL COLLEGE OF SURGEONS OF ENGLAND
L.D.S.
FIRST PROFESSIONAL EXAMINATION
February, 1929

PART I—Dental Mechanics

D. W. Goodman
R. N. Hine
R. N. G. Neave
C. P. B. Reed
W. Hughes
J. W. Mansie
L. Symonds

PART II—Dental Metallurgy

D. W. Goodman
R. W. F. Brotherton
F. W. Clare
G. I. C. F. du Plessio
A. W. Holman
C. V. Kark
F. J. Mardon
S. R. Peatfield
J. W. Small
J. H. Stevens
T. Weiner
E. V. B. Widdowson
W. Hughes
G. B. Brummitt
J. E. Darlow
R. J. G. Grewcock
C. L. Hudson
C. A. Kirton
C. G. O. Nevard
C. S. Pitt
L. H. Smith
R. W. Tuck
U. L. W. Whitling

PART III(a)—Anatomy and Physiology

C. V. Kark
J. W. Small
U. L. W. Whitling
T. D. Popplewell
L. H. G. Cummings
B. Deggots
E. H. Lewis
D. J. Reed
S. R. Peatfield
J. H. Timpson
T. A. Chandler
H. B. Christian
L. D. Dale
G. G. Hardie
C. C. R. Mailer
C. R. Stone

PART III(b)—Dental Anatomy Physiology

E. B. Carpenter
T. D. Popplewell
N. L. Barber
J. R. Cohen
G. R. G. Druce
F. J. Goldsworthy
C. W. Harrison
S. C. Holms
E. J. F. King
E. A. Mayston
K. C. Moss
F. A. Sicklemore
J. E. Ilott
H. M. Selmann
J. Barnes
G. M. Davies
A. T. Gibb
C. V. Harries
L. B. Hilton
J. A. C. Hunter
M. McDowall
L. Mortimer
R. E. R. Palmer
R. A. Sykes

FINAL EXAMINATION

PART I—Surgery

C. D. Malone
T. E. K. Uren
A. J. D. Gibbings
R. W. Stevens
C. J. Woodcock
F. H. B. Spence
J. W. Woolley
R. E. L. Jones
R. E. Wiles

PART II—Dental Surgery

C. D. Malone
T. E. K. Uren
F. H. B. Spence
J. W. Woolley

UNIVERSITY OF LONDON
2ND EXAMINATION FOR MEDICAL DEGREES

PART I
March, 1929

J. A. Brocklebank
E. D. Falconer
A. E. Locke
P. S. Norris
L. C. Oliver
P. R. Wheatley
C. J. Evans
A. W. Gibbons
B. McArdle
W. L. Ogle
V. B. Reckitt

PART II
March, 1929

A. M. Cantor
R. T. Elven
G. Gilchrist
A. Lewis
D. McGregor
C. Rutter
E. H. de B. Crowther-Smith
D. Erskine
K. J. Gilchrist
M. J. F. McArdle
J. A. W. Miller
W. P. Stamm

Notice

PSYCHOLOGICAL MEDICINE

A Course in Psychological Medicine will be given during the Summer Term, 1929, as follows. All Students who have not attended a course in Psychological Medicine and who wish to sit their Final Examination in July or October, 1929, or in January or April, 1930, must attend, as the Course will not be repeated until the Summer Term, 1930.

Lectures will be given by Dr. Gillespie on *Fridays* at 9.30 a.m. in the Physiological Theatre, commencing on *Friday, April 19th*, 1929.

Demonstrations will be given by Dr. Gillespie at the *Bethlem Royal Hospital, S.E.*1, as follows:—

Friday, April 19th, 1929, at 2 p.m.
Tuesday, ,, 23rd, 1929, at 2 p.m.
Friday, May 3rd, 1929, at 2 p.m.
Tuesday, ,, 7th, 1929, at 2 p.m.
Friday, ,, 24th, 1929, at 2 p.m.
Tuesday, ,, 28th, 1929, at 2 p.m.
Friday, June 7th, 1929, at 2 p.m.
Tuesday, ,, 11th, 1929, at 2 p.m.
Friday, ,, 21st, 1929, at 2 p.m.

Guy's Hospital, S.E.1.

T. B. JOHNSTON,
Dean of the Medical School.

Change of Address

M. Shaw, "Holmleigh," Alverstone Road, Brondesbury Park, N.W.2.

W. H. and H. D. Kendrick, "Clifton Lodge," Park Road, Sittingbourne.

Dr. Maurice Shaw, 33, Wimpole Street, W.1. 'Phone: Welbeck 6087. Residence unchanged, 38, Addison Avenue, W.11. 'Phone: Park 9474.

J. Lewin, 97, London Road, King's Lynn, Norfolk.

H. I. Maister, c/o Royal Cripples Hospital, 80, Broad Street, Birmingham.

Appointments

Miss Celia Coleby, who trained at Guy's and was recently Sister in the Nurses' Home and in Isolation, has been appointed Matron of the Northwood and Pinner Hospital, Middlesex.

Ronald Felton, M.C., M.B., B.S., Medical Superintendent, "Ty-Collwyn" Convalescent Home, Sooke Harbour, Vancouver Island, B.C., Canada.

Norman Burgess, M.A., M.D., M.R.C.P., Civilian Medical Officer, Royal Air Force, Bristol District.

Birth

PARISH—On April 13th, 1929, at 1, Albert Road, Withington, Manchester, to Mary, wife of John E. Parish—the gift of a son.

Death

LEDLIE—Dr. William Ledlie, of 65, St. James's Road, West Croydon, on Friday, March 15th, 1929, as the result of an accident.

GUY'S HOSPITAL MEDICAL SCHOOL.

TIME TABLE. SUMMER TERM, 1929.

SUBJECTS FOR FINAL EXAMINATION. MEDICAL.

Subject	Lecturer	Days and Times	Place	First Class or Lecture
Bacteriology	Professor Eyre	Lectures. Tues. Weds. and Thursdays at 12.15 p.m. Practical. Mons. Tues. Weds. Thurs. Fridays and Saturdays at 9.15 a.m.	Pathol'cal Theatre Path'cal Class Room	Tuesday, April 23rd Monday, April 22nd
Psychological Medicine	Dr. Gillespie	Lectures. Fridays, at 9.0 a.m. *Demonstrations.* Alternate Tuesdays and Fridays, at 2 p.m.	Physio'cal Theatre Bethlem Royal Hospital	Friday, April 19th Friday, April 19th
Forensic Medicine	Dr. Ryffel	Mons. and Thurs. at 4.30 p.m.	Class Room 3	Thursday, May 2nd
Operative Surgery	Mr. Hughes	Mondays and Fridays at 12 noon	Op. Surg. Class Rm.	Fri., May 24th at 12 noon
Applied Anatomy	Professor Johnston	Wednesdays at 12 noon	Demonstration Theatre	Wednesday, May 1st

ORGANIC CHEMISTRY, ANATOMY, PHYSIOLOGY AND PHARMACOLOGY.

Subject	Days and Times	Place	First Class or Lecture
Organic Chemistry (2nd M.B. Part I.)	Lectures. Weds. & Fridays 9.30 a.m. Practical. Mons. & Thurs. 10 a.m.	Chemistry Theatre Chemistry Laboratory	Wednesday, May 1st Thursday, May 2nd
Anatomy	Elementary Lectures. Mons. 9.30 a.m. Weds. 11 a.m. Practical Anatomy. Daily from 9.30 a.m. to 5 p.m. Revision Classes. To be announced later Normal Histology. Tuesdays at 2 p.m.	Anatomical Theatre Dissecting Room Demonstration Theatre Histology Laboratory	Wednesday, May 1st Tuesday, April 30th To be announced later Tuesday, April 30th
Physiology	Chemical Physiology. Tuesdays 2-4 p.m. Experimental Phys'logy. Weds. 11-1 p.m. Physiological Histology. Fridays 11-1 p.m } Revision for M.B. Candidates Clinical Physiology (All Students). Thurs 12-1 p.m.	Chemical Physiological Laboratory Experimental Physiological Laboratory Experimental Physiological Laboratory Clinical Theatre	Tuesday, May 7th Wednesday, May 1st Friday, May 3rd Thursday, May 2nd
	Practical Revision Classes for candidates for Conjoint Examination Tutorial Classes, Elementary. (Junior Medical Students.) Advanced. (All Senior Medical Students.)	Days and times of classes and dates of commencement will be announced later	
Pharmacology	Mons. 4 p.m. Fridays, 1.15 p.m.	Physiological Theatre	Friday, May 3rd

CHEMISTRY, PHYSICS AND BIOLOGY.

Course	Subject	Lectures	Place	Practical Classes	Place
Pre-Medical Conjoint	Inorganic Chemistry	Tues. & Thurs. 9.30 a.m. First Lecture, Thursday, May 2nd	Chemistry Laboratory	Tues. & Thurs. 3–5 p.m., First Class, Thurs., May 2nd When no Lecture Practical Class 2-5 p.m.	Chemistry Laboratory
	Organic Chemistry	Tues & Thurs. 2 p.m. First Lecture, Thurs., May 2nd	Chemistry Theatre		
	Physics	Light & Sound. Tues. & Thurs. at 10.50 a.m. Heat. Tues. at 12 noon. First Lecture, Thurs., May 2nd	Class Room IV.	Mons. 10–1 p.m. and 2–5 p.m. First Class, Mon. May 6th.	Physics Laboratory
Conjoint	Biology	Weds. & Fridays, 9.30 a.m., First Lecture, Wednesday, May 1st	Biology Laboratory	Mons. & Fridays 2.30 p.m. First Class, Fri. May 3rd	Biology Laboratory
M.B. London	Inorganic Chemistry	Tues. & Thurs. 9.30 a.m. First Lecture, Thurs., May 2nd	Chemistry Theatre	Mons. 10-1 p.m., Tues. 2-5 p.m. First Class, Mon., May 6th	Chemistry Laboratory
	Physics	Light & Sound. Tues. & Thurs. 10.50 a.m. Heat. Tues. at 12 noon. First Lecture, Thurs., May 2nd	Class Room IV.	Thurs. & Fridays 2–5 p.m. First Class, Thurs. May 2nd	Physics Laboratory
	Biology	Weds. & Fridays, at 9.30 a.m. Thurs. at 12 noon, First Lecture, Wed., May 1st	Anatomical Theatre	Weds. & Fridays at 10.30 a.m. Sats. 11 a.m. First Class, Wed., May 1st	Biology Laboratory

GUY'S HOSPITAL DENTAL SCHOOL

TIME TABLE—SUMMER TERM, 1929.

Subject	Lectures	Place	Practical	Place
INORGANIC CHEMISTRY	Tuesdays and Thursdays at 9.30 a.m., commencing on Thursday, May 2nd	Chemistry Laboratory	Tuesdays and Thursdays at 3 p.m., commencing on Thursday, May 2nd	Chemistry Laboratory
ORGANIC CHEMISTRY	Tuesdays and Thursdays at 2 p.m., commencing on Thursday, May 2nd	Chemistry Theatre		
PHYSICS	Tuesdays and Thursdays at 10.50 a.m., and Tuesdays at 12 noon, commencing on Thursday, May 2nd	Class Room IV	Mondays 10–1 p.m. and 2–5 p.m., commencing on Monday, May 6th	Physics Laboratory
DENTAL METALLURGY ..	Mondays, Wednesdays and Fridays at 12 noon, commencing on Wednesday, April 17th	Chemistry Theatre	Thursdays at 2 p.m., commencing on Thursday May 9th	Metallurgical Laboratory
DENTAL PROSTHETICS ..	Mondays at 4 p.m., commencing May 6th	Anatomical Theatre	Fridays at 1.45 p.m., commencing on May 10th	Dental Laboratory
ANATOMY	*Elementary Lectures*— Mondays 9.30 a.m. and Wednesdays 11 a.m., commencing Wednesday, May 1st *Demonstrations*— Days and hours to be arranged later	Anatomical Theatre	Daily 9 a.m. to 5 p.m. Names to be entered in Dissecting Room on Tuesday, April 30th at 10 a.m.	Dissecting Room
PHYSIOLOGY	Thursdays 10.30 a.m. to 12 noon commencing May 9th	Physiological Theatre	Thursdays at 11 a.m., commencing May 9th	Experimental Laboratory
DENTAL ANATOMY ..	Fridays at 12.15 p.m., commencing May 10th	Physiological Theatre		
DENTAL HISTOLOGY	Mondays at 2 p.m., commencing May 6th	Physiological Theatre	Mondays at 2.30 p.m., commencing on May 6th	Histology Laboratory
DENTAL DISEASES OF CHILDREN ..	Tuesdays at 4 p.m., commencing May 7th	Anatomical Theatre		
OPERATIVE DENTAL SURGERY	Thursdays at 4 p.m., commencing May 2nd	Anatomical Theatre		
DENTAL MATERIA MEDICA	Thursdays at 2.15 p.m., commencing May 2nd	Physiological Theatre		
GENERAL BACTERIOLOGY ..	Tuesdays, Wednesdays and Thursdays at 12.15 p.m., commencing Tuesday, April 23rd	Pathological Theatre		
DENTAL BACTERIOLOGY ..			Mondays at 4 p.m., and Thursdays at 2 p.m. commencing on Monday, April 22nd	Pathological Class Room
MEDICINE DEMONSTRATIONS ..	Tuesdays at 4 p.m. commencing on May 7th	Class Room III		

EDS. { O. P. E. T. C.

GUY'S HOSPITAL GAZETTE

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PASSIM

THOMAS AQUINAS defined a learned man as "the man of one book." Publishers would hardly let that sort of remark pass now. It would spell ruin to their trade, whether it applied to the man who wrote only one book or read only one book. They prefer the Edgar Wallace's of the world and their reading publics. This number of the GAZETTE, being the first in May, is set aside for our annual bibliographical beanfeast. Scattered in dazzling profusion through the ensuing pages will be found alluring advertisements of books, books of all shapes, all sizes and all subjects; books whose titles breathe brilliance in their brevity or cause the tongue to roll luxuriously round their rhodomontade; books whose authors' names are whispered in awe; books by men of every nation writing on every topic; books by men who are born writers, by men who acquire writing and by men who thrust their writings upon us.

We like to see this delectable store of books set out before us, to run an appreciative eye down the columns of black print and to imagine ourselves fingering each volume; turning this one over with a touch appreciative of its good solid proportions, clear lettering and fine golden title; allowing that one to rest on our knees while we visualise its erudite contents. We do this, and then we glance at our own empty shelves and take comfort from Thomas Aquinas. After all, *he* knew. Impressive as the man is who sits in an easy chair surrounded by tier upon tier of books, luxuriant in their leather bindings and rustling in their India paper, it is an artificial atmosphere that he breathes and one redolent of a hot-house full of exquisite flowers that wither as soon as they are plucked. How much more to be envied is the "learned man" who keeps in a window box a few literary blooms, which, favoured by the wind of intelligence and planted on a soil rich with thought, never fade. When this man reads a book he drains from it every dreg of entertainment and of information and multiplies the result by his own dreams and meditations. More is gained from falling asleep over one book for a week than from skimming over three books in a day, and there must be many who are now striving after higher examinations who will readily agree and obtain much comfort from this doctrine.

And yet it is the man who has read much and often who is the worldly success in the houses of the people who matter. He is invariably asked to the best dinner parties because he has always read the latest novels. He will be found on the hearth-rug at any tea party or "intellectual soirée" holding forth brilliantly upon So-and-So's latest biography about Such-and-Such—"so daring and so typical of So-and-So's best work." He is the friend of the publisher, for his eager listeners will immediately order all the books he has mentioned so that they, too, may stand on some other hearth-rug and say, "So daring, so typical and so altogether too So-and-Soish." Few of the books advertised in this GAZETTE will be mentioned over the dinner table; most of them could not be discussed with any detail at the most Bohemian tea party. But even a text book can have an individuality of its own. There are good text books and bad text books. Books on anatomy, for example, do more than maintain a dead level of monotony. Though their subject matter cannot vary a great deal, yet the way in which it is set down is full of the possibilities of good or bad writing. One writer will make absorbingly interesting a chapter which another leaves cold and lifeless. So we fervently exhort those unskilled in the choosing of a book to look to their author and not be blinded by their subject. They will find in these advertisement columns books by men who make pathology read like prose, but they will

also find text books on medicine that, in their artistic merits, are strongly reminiscent of the average railway time-table. So let the inexperienced and incautious go warily, and if he be in doubt about a book then let him not buy it, but rather borrow it, for while "leisure without books is death," yet—

"Sunt bona, sunt quaedam mediocria sunt mala plura,
Quae legis hic."

It is with deep regret that we record the death of the late Rt. Hon. Lord Revelstoke, G.C.V.O. Well known as Chairman of the Hospital Finance Committee and as a Governor for nearly 30 years, he took great interest in all matters connected with the welfare of Guy's. He was also Treasurer and a Member of the General Council of King Edward's Hospital Fund for London, and his loss will be keenly felt by all those with whom he came in contact during his wide activities on behalf of the voluntary hospital. As we go to press we read that he has bequeathed £100,000 towards King Edward's Hospital Fund for London to be treated as capital, the income to be included in the annual distribution to hospitals.

"British East" has long become a byword in connection with up-to-date Colonial development, and we have been interested to receive from the *East African Standard* an account of the public health methods recently adopted in Kenya whereby each settler is encouraged to become the recognised health authority in his own particular district. Personal contact with each farm is the main principle, and this is accomplished by a medical officer travelling in continuous *safari* with a mobile dispensary and laboratory specially equipped to deal with the diagnosis of malaria and hookworm that are universally prevalent among the labouring natives. Instruction in preventive measures is the first aim, and successful treatment, naturally, second. Nowhere in the world is the spirit of preventive medicine so active and nowhere is it producing such excellent results both in the relief of unnecessary suffering and the improvement of agricultural efficiency as in this part of the Empire.

The following House Appointments have been made:—

House Physicians—

To Dr. Mutch, Mr. L. B. Langmead.
Dr. Hurst, Mr. E. T. Conybeare.

House Surgeons—

To Mr. Steward, Mr. J. E. Morton.
Mr. Rowlands, Mr. H. N. W. Harley.

Obstetric Residents—

To Mr. Chapple, Mr. E. M. B. West.
Messrs. McNair and Cook, Mr. E. L. Graff.

Out-Patient Officers—

Messrs. J. C. Heather, W. D. G. Jones, E. H. Sears and T. T. Stamm.

Assistant House Surgeons—

To Mr. Hughes, Mr. J. B. Blaikley.
Mr. Davies Colley, Mr. F. E. Camps.
Mr. Bromley, Mr. N. E. Pitt.
Mr. Slesinger, Mr. J. B. Robinson.
Mr. Ogilvie, Mr. R. Glanvill.

Ear, Nose and Throat House Surgeons—

To Mr. Mollison, Mr. C. H. Johnson.
Mr. Layton (till August 16th), Mr. T. G. Scott.

House Physician (Children's Dept.)—

Mr. K. E. Lane.

House Physician (Dermatological and Neurological Dept.)—

Mr. L. K. Wills.

We would remind readers that tickets are now on sale for the First Mediguild Dance, to be held at the British Medical Association's House in Tavistock Square on May 16th. No more pleasant way of supporting the funds of the Royal Medical Benevolent Institution could be devised, and Bridge tables are to be provided for those to whom the prospect of several hours continuous dancing does not appeal. We are informed that Lady Bonsor has very kindly consented to receive guests on the evening in question.

Tickets, price 6*s*. each, may be had from Mr. H. Winston at the Medical School Office.

We are asked to announce that the Annual Dinner of the 'Nineties Club (Union of Goblins and Contemporaries) will take place at Gatti's Restaurant, Strand, W.C., on Tuesday, May 7th, at 7.30 p.m. Mr. Hugh McDowall Parrott will be in the chair, and tickets, price 15*s*., are to be obtained from E. B. Dowsett, Esq., at 118, Gloucester Place, W., or from P. F. Henry, Esq., 73–76, King William Street, E.C.4.

Guy's Hospital Gazette

(Established 1872)

The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the Gazette can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.

Obituary

EDWARD SIDNEY THOMAS LEE

IT came as a dreadful shock to us at Guy's to hear of the tragedy which befell Edward Sidney Thomas Lee. Last Saturday, April 27th, he met his death while riding a motor cycle at Putney.

He entered the Hospital in October, 1925, both as a dental and a medical student. A man of exceptional aptitude for study, he had gained first class honours in the London Matriculation while at Highgate School, and here at Guy's had already passed his Second Conjoint, being due to sit for the Final L.D.S. next February.

He was a man much to be admired, for in spite of a weak leg which greatly handicapped him he took part in many activities, in all of which he showed unbounded enthusiasm. Only last month he was rowing in the Head of the River Championship race over the University course. He was a keen fencer, a member of the University of London O.T.C., and had also taken part in the activities of the Musical Society. This is sufficient to show what an interest he took in all concerned with his Hospital.

I always remember him taking part in the athletics at school, in spite of his misfortune, just for the sheer sport of it—one might say he was a super sportsman.

I should like to add that he was an earnest Christian—many are the Sunday afternoons he has given up to take his Sunday School class.

He was only just 21, a bright, strong, burly fellow, and he will be greatly missed by all who really knew him. We offer to his parents our most deep-felt sympathy in their great bereavement.

F. N. C.

"A Busman's Holiday," Autumn, 1928

An address delivered before The Physical Society, by A. T. Fripp, Esq., F.R.C.S.

SPENDING four months in the surgical workshops of a foreign country just watching others get on with their job is a wonderfully pleasant and stimulating experience for any student of surgery whose curriculum has confined him for several years within the walls, however wide, of a single institution, however good. And the United States and Canada provide an ideal field for such a holiday—every day and every place fresh points of view upon life in general and upon our professional problems in particular are thrust upon one. It is upon the latter that I propose to try to interest you by relating a few of the many impressions one gathered last autumn.

But, first of all, let me record my gratitude for the wonderful welcome and hospitality accorded everywhere in the New World to a chance visitor from the Old. It would be difficult to find words to express adequately the thanks that are due to all of one's hosts. They do, indeed, strive to make one feel that such visits are welcomed, and I hope that it may fall to the lot of some of my fellow students to repeat my happy experiences.

Little of all the interesting developments encountered struck me as really new. One met a great deal of research going forward, but probably you will be more interested—as I was—in hearing of the ways in which the commoner surgical conditions were usually tackled in the various large clinics.

Time is too short to enter into great detail over any particular topic or to describe minutely any one operation. I went, of course, to many other centres, but even the five weeks spent at the Mayo Clinic seemed all too short. What I have to say mostly concerns the work there.

It was very impressive how systematically the surgical material was discussed at weekly conferences, attended by both the clinical and pathological staff. Post-mortems on cases which had died within the week were discussed first. The intern gave a short history of the patient, the surgeon concerned gave the differential diagnosis and the pathologist gave the post-mortem findings and demonstrated the specimens which he had kept. Often some point was brought out which would have been missed if the clinician and pathologist had not thus met.

On the whole, local anæsthesia was used less than I expected, although the custom in different hospitals varied. Opinions as to the use of ethylene are divided. At the Mayo Clinic ethylene given either alone or with ether is used very extensively. The advantages claimed are :—

(1) Rapid and easy induction ;
(2) Very slight effect on the heart ;
(3) No chest complications ;
(4) No post-anæsthetic vomiting.

The disadvantages are :—

(1) It is highly inflammable, but the Mayos claim that with due care the danger is slight, and they have had no accidents, though there have been some very serious accidents elsewhere ;

(2) Ethylene by itself does not give good relaxation for abdominal work, but in some cases the surgeons get accustomed to less relaxation than is expected over here. They use, however, large retractors with considerable force.

Spinal analgesia I saw used hardly at all. A cervical nerve block, combined with local infiltration, is used extensively for operations on the neck, and seemed to give good results.

Sacral nerve block is used for operations on the perinæum and rectum, and for suprapubic prostatectomy is combined with infiltration of the abdominal wall. There is no fall of blood pressure. The anæsthesia is complete and lasts as long as is necessary for any rectal operation. The disadvantage is that it is not always easy to find the sacral foramina, and that therefore experience and continual practice are necessary to get good results.

My experience of thyroid surgery is limited to two clinics, Dr. Crile's at Cleveland and the Mayo Clinic, and the difference in the treatment at the two places is very great. At the Mayo Clinic they claim that the use of Lugol's solution has so improved the mental and physical outlook of the patient that any psychological treatment is unnecessary. Digitalis is never given. The patients rest in bed for a few days, during which the basal metabolism is investigated, and great importance is attached to this. The date and time of the operation is discussed with the patient, also the risk which the surgeon considers to be present in his or her particular case.

Anæsthesia is local, 180–200 c.c. of .5 per cent. novocaine with light ethylene or nitrous oxide. When one lobe has been removed the patient is allowed to come round and made to talk, in order that damage to the recurrent laryngeal nerve, if present, may be recognised before the other side is proceeded with. The patient is then put to sleep again for removal of the other lobe. Dr. Pemberton, who does most of this work, lays stress on a point of anatomy in cases of thyroid enlargement. In a normal neck the recurrent laryngeal nerve is a posterior relation of the lateral lobe. But enlargement of a lobe is chiefly backwards, and so the nerve becomes a medial relation. Therefore, in order to avoid damage to the nerve, the trachea should always be left covered with a thin layer of gland tissue, and it is then safe to excise the rest of the particular part of the lobe.

In post-operative treatment they have an elaborate oxygen chamber, large enough to take three or four patients and nurses, and any case is placed therein on the first sign of distress. The O_2 concentration can be measured and is maintained at 50–60 per cent. They claim that this markedly reduces the mortality in severe cases.

Dr. Crile, on the other hand, lays great stress on the psychological side of the treatment. The date and time of the operation are unknown to the patient, and anæsthesia may be induced two or three times before the actual operation, which takes place in the patient's room, so avoiding the excitement of moving. Digitalis is given as well as Lugol's solution, and if necessary bromide or luminal.

Dr. Crile depends more than any other surgeon I saw on the team work of his assistants.

His skin incision is higher than is usually made and does not extend through the platysma. He then undercuts the skin very high in the lid-line and makes a long mid-line incision through the platysma and infra-hyoid muscles. He claims that this gives as good exposure and a better cosmetic result. He dislocates the lobe as little as possible in order to avoid injury to the recurrent laryngeal nerve.

At Boston one greatly enjoyed watching Dr. Cushing, upon whose technique most of the cranial surgery done in America is based.

He depends very largely upon local anæsthesia, even in children, and then the patient may be put to sleep three or four times in the course of an operation with N_2O for some particular step and then allowed to come round. He works very slowly, taking $1\frac{1}{2}$ hours to open the dura mater, and the whole operation may last up to 9 hours. He controls hæmorrhage from the superficial tissues by Spencer Wells applied to the aponeurosis very close together. These are then collected into groups of 8 to 10 by elastic bands and turned back over the scalp, thereby effecting compression of the vessels supplying the skin. They are then towelled off so as to be out of the way. The field of operation is kept clear by a sucker and by washing away blood and bone debris with saline from a dripper. Hæmorrhage from the brain substance is controlled by an electro-cautery. The bleeding point is grasped by forceps and one electrode applied to the handle of the forceps, so sealing the end of the vessel. Brain matter is excised by a knife forming an electrode, so that hæmorrhage from a cut area is very slight. The longitudinal sinus is frequently resected to enlarge the field of operation.

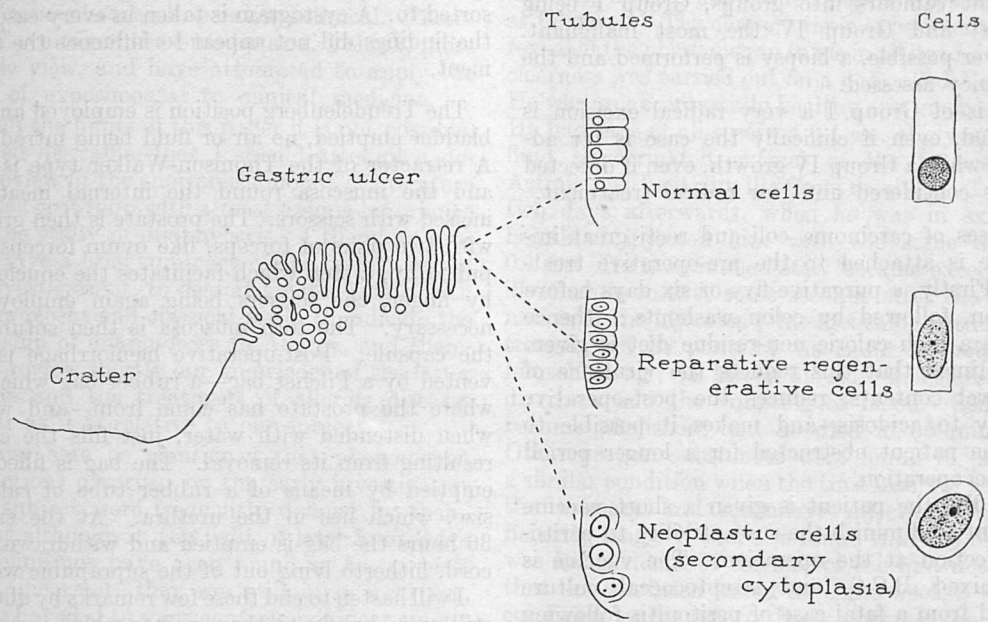
Dr. Cushing does not rely upon ventriculography in his diagnosis, but this is extensively used in the other clinics I visited.

The treatment of gastric ulcers, of course, varies in the different clinics as much as it does in our schools. In many hospitals one found little or no variation from the lines we are accustomed to at Guy's, but at the Mayo Clinic they hold the view that a high percentage of ulcers are already malignant by the time they come to operation, and the rest are likely to become so sooner or later. This view is based on the examination of frozen sections of ulcers excised. Dr. MacCarthy, the pathologist, claims that he can detect in the cells themselves cancerous and pre-cancerous changes which are not apparent in paraffin sections. These diagrams are taken from one of his papers. The changes occurring in the shape of the cell and nucleus and the staining of the cystoplasm are shown, and can be seen before the cell has invaded the basement membrane. He agreed that long practice is necessary to distinguish the chronic inflammatory from the pre-cancerous cell, and in less experienced hands this method seems fraught with danger. The consequence is that in this clinic the treatment of gastric ulcer never stops short of excision, sometimes small, but usually a partial gastrectomy of the Polya type.

For carcinoma of the stomach more heroic resections are undertaken than is my experience of the practice at home.

Dr. Balfour has devised a two-stage operation for carcinoma near the pylorus which may be briefly described as follows :—

1st Stage—The stomach is divided as high as possible and an anastomosis made—of the Polya type—of jejunum to the whole of the proximal section of the stomach. The distal section is temporarily closed.



2nd Stage, 10–14 days later—A certain amount of the swelling around the growth due to inflammation has subsided, and the tumour is more freely movable. The distal part of the stomach, with the pylorus and enlarged glands, is removed and the cut end of the duodenum closed. Dr. Balfour claims that in this way it is sometimes possible to excise a growth which would be inoperable by any other method.

Duodenal ulcers are treated medically at first, and only about 40 per cent. of those diagnosed come to operation. The usual procedure is a gastro-enterostomy, but when, as so frequently is the case, the ulcer is on the anterior wall of the first part of the duodenum, Dr. C. H. Mayo prefers to excise the ulcer and part of the pylorus, combining this with a pyloroplasty.

In gall bladder disease, cholecystography is always included in the routine investigations, but the general opinion is that while it gives a reliable indication of the function, it gives little as

to the pathology in many cases. Some surgeons were keen on closing the abdomen without drainage after a clean cholecystectomy, but they could not produce any very strong arguments against a temporary peritoneal drain.

The treatment of carcinoma recti is also influenced by research started by Dr. Broders in 1915, and based on the microscopical appearances of the tumour, and this has led him to classify malignant tumours into groups, Group I being the least and Group IV the most malignant. Whenever possible, a biopsy is performed and the malignancy assessed.

If it is of Group I a very radical excision is performed, even if clinically the case is far advanced, while a Group IV growth, even if detected early, is considered unfit for radical treatment.

In cases of carcinoma coli and recti great importance is attached to the pre-operative treatment. Firstly, a purgative five or six days before operation, followed by colon washouts; thence onwards a high calorie non-residue diet is given. It is claimed that this reduces the virulence of the bowel contents, reduces the post-operative tendency to acidosis, and makes it possible to leave the patient obstructed for a longer period after the operation.

Secondly, the patient is given a short vaccine treatment to diminish the susceptibility to peritoneal infection at the operation. The vaccine is from mixed B.C.C. and streptococcal culture obtained from a fatal case of peritonitis following fæcal contamination. The first injection is hypodermic and the second intra-peritoneal.

For the post-operative treatment saline is given hypodermically and glucose intravenously, and the colostomy, if one is made, is not completed for eight to nine days.

Dr. Judd and Dr. Adson, of the Mayo Clinic, have reported two interesting cases of Hirschsprung's disease cured by excision of the lumbar sympathetic chain and ganglia. The rationale is that the condition may be due to hyperactivity of the sympathetic innervation of the rectum. In one case the ganglia of the left side were excised, and in the other of both sides. In both cases a complete cure was reported, both clinically and to X-ray examination.

Dr. H. Young, of Johns Hopkins Hospital, Baltimore, is one of the great exponents of the perineal route in prostatectomy, but, unfortunately, I was there during a bad epidemic of influenza, and only emergency surgery was being done. Dr. Young was himself a victim of the influenza.

For the suprapubic route I have already mentioned sacral block anæsthesia, and I should like to repeat that it seemed eminently satisfactory. An elaborate description of the technique would be out of place here, but considerable practice is essential to its successful employment.

In preparing the patient, catheter drainage is carried on until the blood urea is constant, and only if the blood urea remains high and bad cystitis is present is a two-stage operation resorted to. A cystogram is taken in every case, but the findings did not appear to influence the treatment.

The Trendelenberg position is employed and the bladder emptied, no air or fluid being introduced. A retractor of the Thomson-Walker type is used and the muscosa round the internal meatus is incised with scissors. The prostate is then gripped with two pairs of forceps, like ovum forceps, and pulled up, a step which facilitates the enucleation by finger, the scissors being again employed if necessary. The torn muscosa is then sutured to the capsule. Post-operative hæmorrhage is prevented by a Pilcher bag—a rubber bag which lies where the prostate has come from—and which, when distended with water, just fills the cavity resulting from its removal. The bag is filled and emptied by means of a rubber tube of catheter size, which lies in the urethra. At the end of 36 hours the bag is emptied and withdrawn by a cord, hitherto lying out of the suprapubic wound.

I will hasten to end these few remarks by alluding still more briefly to three points which impressed themselves upon my memory. The difficulty has been to know what to leave out in one's desire to interest you in the surgical doings in the New World and at the same time to avoid boring you by inordinate length.

Firstly, laboratory investigations are carried out more systematically than in England, and in making a diagnosis more importance is attached to them. Clinical observation is apparently given a secondary place. A white blood count is done as soon as the patient comes into hospital. X-Ray examinations and blood-chemistry investigations are then carried out, and comparatively little importance is attached to physical signs and the clinical examination of the patient.

Secondly, blood transfusions, intravenous, glucose and saline, are extensively employed, and, I thought, to excess. In one hospital glucose solution even up to 50 per cent. was sometimes used.

Thirdly, the team work of an individual unit is very well organised, and the first assistant, who has been dressing to his surgeon for one or more years, is a more efficient "Number Two" than a surgeon in England usually has to rely upon.

Anaphylaxis

The Treasurer's Prize Essay for 1928. Read before the Physical Society. By J. J. Chamberlain

INTRODUCTION

FROM the subject title it might be thought that those who had the task of selection had in mind the strictly experimental side of medicine. Such an inference is not, however, I think, quite justifiable, for this Society is essentially, in conception and operation, clinical. Therefore, I have taken the broader and, I think, more desirable view, and have attempted to apply the results of experimental to clinical medicine.

Within the limits of this paper it is not possible, or indeed desirable, that I should attempt a detailed review of the enormous amount of literature which has grown up with almost unique luxuriance round the study of anaphylaxis. I therefore propose to give a brief summary of the history of the early investigations, to deal at greater length with the more recent and classical work, to indicate the relationship of anaphylaxis to Allergy, and thereafter to review shortly our knowledge of the latter condition and the treatment of allergic diseases in so far as it is relative to our subject.

It must here be mentioned that phenomenon and reactions observed by the early investigators in this subject were frequently defined by them, and that although in the light of later knowledge these definitions have been found to be, at least in part, incorrect, they are still in general use, and thus have led to some confusion of ideas among the various writers.

PART I

HISTORICAL

The first known observation of an anaphylactic phenomenon is that described by Jenner as far back as 1798, who noticed in his experimental work on smallpox that if a person had once had an attack of smallpox or cowpox the subject responded to a cutaneous application of the virus made years afterwards by an early local cuticular inflammation—in fact, an accelerated reaction. In 1839 Magendie had already recorded the occurrence of the phenomenon, for he observed that dogs which had been repeatedly injected with egg albumen often died suddenly, and at later dates several other observers noticed the condition without realising its importance.

Richet[1] in 1902, while experimenting with poisonous proteins obtained from sea-anemones, first definitely drew attention to the condition now known as anaphylaxis. A dog which had previously had a small sub-toxic intravenous injection of protein material, causing only slight and evanescent symptoms, was given a second similar injection some weeks later. Richet imagined that the dog would have attained some degree of immunity, but, contrary to his expectations, an immediate and fatal reaction occurred. His own description of the classical experiment is as follows: "The characteristic experiment which revealed the phenomenon to me in all its undoubted clearness was carried out on a dog called Neptune. He was an exceptionally healthy and vigorous dog. He had first of all received 0.1 c.c. of glycerinated fluid (glycerinated extract of the tenticales of Actiniæ) without any ill effects resulting. Twenty-two days afterwards, when he was in excellent health, I injected him with the same dose of 0.1 c.c. He then immediately became exceedingly ill—that is to say, some seconds after the termination of the injection; his breathing became distressed and he panted; he could scarcely drag himself along; he lay on his side, was seized with diarrhœa and the vomiting of blood. Sensation became abolished, and he died in 35 minutes." Other protein substances were found to produce a similar condition when the time interval between the primary and secondary injection was sufficiently long; it was also found that the reaction was independent of the size of the first dose, and that the condition lasted for some weeks. As this condition appeared to Richet to be the direct opposite of immunity or phalaxis, he termed it anaphylaxis, a term which did not properly express his imperfect conception of the reaction at that time, but which has passed into general use.

In 1903 Arthus[2] found that after repeated injections of horse serum in rabbits a stage was reached at which an additional subcutaneous injection produced marked œdema and even necrosis, while intravenous injection, normally innocuous, produced a fatal result.

In 1904 Theobald Smith,[3] while experimenting, accidentally discovered that guinea-pigs, which had some weeks previously had a small injection of horse serum for antitoxin standardising purposes, reacted to a second injection, as to an acute poison, although to the normal animal an injection of the serum was quite innocuous.

In the following year Von Pirquet and Schick[4] described the accelerated and immediate types of reaction of serum disease in patients receiving a second therapeutic injection of horse serum. These early experiments drew the attention of many other investigators to the subject, and the

main characteristics of the reaction were soon established. They were primarily three in number :

(*a*) An interval of one to several weeks must elapse between the first and second injection to produce an abnormal reaction ;

(*b*) The condition was extremely specific ;

(*c*) The condition could be transferred from a sensitised animal to a normal one.

From these characteristics and the type of substances capable of bringing about the reaction, frequently large moleculed proteins normally innocuous, the striking similarity of the condition to a particular type of immunity became apparent, and it was postulated that the active substance in the primary injection acted as an antigen, causing the production of antibodies in the blood or tissues of the subject ; and that upon the presence of these antibodies depended the abnormal reaction obtained on re-injection.

The particular type of immunity to which anaphylaxis has been compared is that type dependent on the so-called " precipiten-reaction," and in favour of this similarity the following facts have been advanced :—

(1) The typical anaphylactic antigens are the natural large moleculed proteins of cell protoplasm or body fluids such as serum and blood.

(*a*) Purification does not diminish the activity of these antigens ;

(*b*) Denaturation or racemisation rapidly destroys the antigenic property.

(2) Carbohydrates have no power of producing anaphylaxis.

(3) The high specificity of the reaction ; it has been shown by Dale and Hartley[5] that it will distinguish between the three proteins of horse serum.

(4) If any of the typical anaphylactic antigens are injected in sufficiently large doses and at intervals too short to allow of the appearance of anaphylaxis a change will take place in the serum and body fluids, so that when mixed with a solution of the immunising antigen mutual precipitation of the proteins occurs.

Thus, we see that the substances effective in producing anaphylaxis also act very effectually in producing precipitin formation, and it has been shown that destruction or modification of the precipitin formation property of proteins similarly affects their powers as anaphylactic antigens. The specific discrimination of the anaphylactic and precipitin reactions is very suggestive that the underlying mechanism, if not identical, is at least very similar. Against this theory which suggests that the antibody producing anaphylaxis is identical with precipitin, is the fundamental fact that the serum of an anaphylactic guinea-pig contains no demonstrable precipitin, and that an animal, the serum of which has been rendered highly precipitative, is not anaphylactic but immune.

The protagonists of the theory overcome this difficulty by stating that the condition of anaphylaxis or immunity depends entirely on the location of the specific antibodies, whether in the tissue cells or in the blood, and it will, I think, be shown in this paper that there is much evidence to support their contention.

RECENT EXPERIMENTAL RESEARCH

Much of the experimental work on this subject has been done in America and on the Continent, so that it is with great pleasure that one is able to refer to the classical review of experimental knowledge written by H. H. Dale[6] in 1920. Referring to the above-mentioned evidence, Dale[7] states " it strongly suggests that the so-called anaphylactic antibody and the precipitin of the immune serum are either identical or very closely similar ; that the remarkable difference in physiological response to the antigen between the anaphylactic and the immune animal depends on the different distribution of the antibody between the blood and the cells of the vital organs ; that the antigen acts as a poison to the anaphylactic animal because its reaction with the antibody takes place in the cells ; but that an excess of antibody in the blood protects the cells by removing the antigen from the sphere of action before it reaches them, and thereby renders the animal immune."

It will now be appropriate to consider the experimental evidence obtained by Dale and his collaborators, and also other investigators, which can be brought forward to support this view. Before doing so, however, it must be mentioned that most of the experimental work has been performed on the guinea-pig, which animal occupies a somewhat peculiar position in the ease with which it can be rendered anaphylactic, the extremely small doses necessary for this purpose, and the pronounced and constant symptoms produced on re-injection. In different species different symptoms are produced, and Dale explains this by pointing out that in each species the symptoms are constant to that species, and characteristic of the general reaction of that species to poisonous proteins or protein derivatives[8]—in other words, anaphylactic shock conforms to a common type of toxic action. Nevertheless, the experimental evidence obtained has at present a somewhat limited general application.

The following will suffice to illustrate the different symptoms of anaphylactic shock in different species :—

(1) In the guinea-pig the main symptom is contraction of the plain muscle surrounding the bronchial tubes, producing a valve-like closure so that air can only be sucked into the chest and not expelled ;

(2) In the dog there is a profound fall of blood pressure, congestion and hæmorrhagic œdema of the intestine, and the liver is swollen and congested ;

(3) In the rabbit heart failure is the main symptom.

To digress momentarily, it is interesting to note that Dale, in collaboration with Laidlaw (late Professor of Pathology in this Hospital), was able to produce the main features indicated in each case by the injection of *B. Iminazolyethylamine*, or, as it is better known, histamine. Later, Dale and Richards[9] were able to show that the main features of the condition as seen in different species when injected with protein derivatives or histamine could be reduced to an action on two tissues ; a stimulation of plain muscle to extreme tonus and a poisoning of the endothelium of the capillary walls.

To return, however, to the symptom complex of anaphylactic shock. If the condition is not rapidly fatal, and a sufficient period of time elapses, the following features appear and are common to all species :—

(*a*) Flushing and irritation of the skin ;

(*b*) Impairment of the natural coagulability of the blood ;

(*c*) Scarcity of leucocytes in the blood ;

(*d*) Agglutination of the blood platelets ;

(*e*) Rapid fall of temperature, owing to increased metabolism.

The contention that anaphylaxis is dependent on the location of the antibodies in the cells of vital organs is conclusively supported by the work of Dale[10] and of Weil.[11]

Richard Weil was able to show that in passive anaphylaxis a certain time interval was necessary for the production of sensitiveness, that the sensitiveness increased as the antibody left the blood, and that in the fully sensitive condition only a small amount of antibody was demonstrable in the circulation ; also that in the fully sensitive condition a further injection of a large dose of the antibody brought about a temporary immunity.

In his work on guinea-pigs, Dale was able to show that all the recognised phenomenon of the anaphylactic condition could be demonstrated just as well in the isolated perfused plain muscle as in the whole animal. Using the horn of the uterus of a young virgin guinea-pig as an easily isolated sample of plain muscle, washing it by prolonged perfusing from all blood, and suspending it in a bath of Ringer's solution to which the specific antigen was added he was able to demonstrate the following features :—

(1) The high degree of specificity of the reaction —for example, the uterus of a guinea-pig which had 14 days previously been sensitised by a dose of .0025 c.c. of horse serum did not react to a dose of .1 c.c. of sheep, cat, rabbit, dog or human serum or egg white. A dose of 1 c.c. of horse serum immediately produced a maximal response (see Fig. 1).

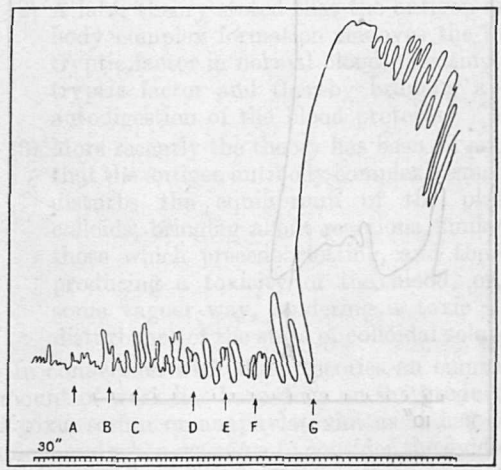


FIG. 1

1/400 c.c. antitoxin (horse)+1 test dose of toxin, 14 days. Doses in each case 0.1 c.c. A, sheep ; B, cat ; C, rabbit ; D, dog ; E, human serum ; F, egg-white ; G, horse serum—(*Jour. of Pharm. and Exp. Therap.* Vol. IV, p. 214, Fig. 26).

(2) That the latent period of reaction to the specific antigen is as brief as that observed with the action of many stimulant drugs on the normal plain muscle, suggesting that the antigen acts directly on the specifically sensitive cells (see Fig. 2).

(3) That the plain muscle from a guinea-pig rendered passively anaphylactic reacts similarly when treated with specific antigen. That after this effective stimulation, if it be washed by thorough perfusion and changed to fresh Ringer's solution, it is found to be insensitive, but that passive sensitiveness can be reconferred " in vitrio " by soaking the muscle for two and a half hours in serum from a sensitised guinea-pig (see Figs. 3 and 4),

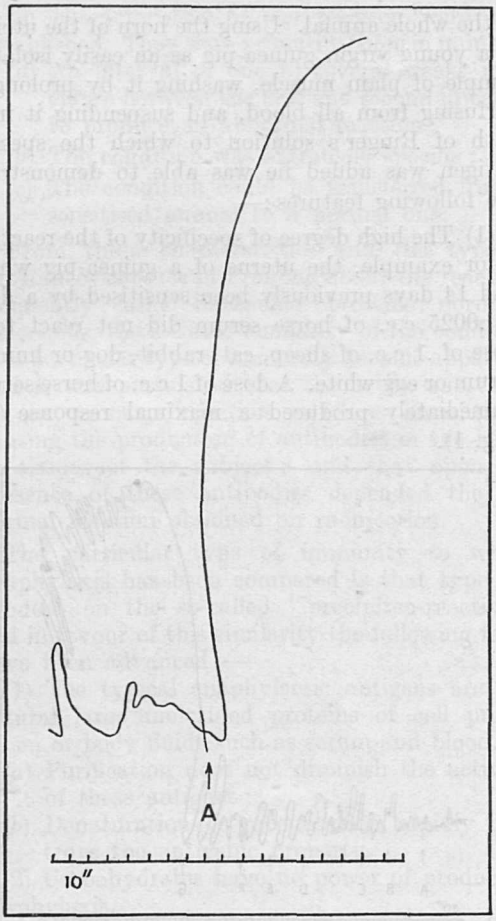


FIG. 2
Sensitisation : 1/480 diphtheria antitoxin + 1 test dose toxin, 14 days. Not perfused. Bath volume 250 c.c. Tracing taken with faster drum than that used in Fig. 1 to measure rapidity of onset of effect. A, 0.5 c.c. horse serum—(*Jour. of Pharm. and Exp. Therap.*, Vol. IV, p. 178, Fig. 2).

(4) That the plain muscle from a normal guinea-pig can be rendered passively anaphylactic by prolonged perfusion with anaphylactic or immune serum, but that the passive sensitisation is not definitely demonstrable until about after five hours perfusion (see Fig, 5).

(5) That the plain muscle of a guinea-pig, rendered immune to horse serum, when washed carefully from blood by thorough perfusion, is as sensitive to the specific antigen as an anaphylactic animal. Suggesting that the protection in the immune animal is brought by the presence of the antibodies in the blood, thus fixing the antigen before it can reach the sensitive cells (see Fig. 6).

Many other observers, including Coca and Rumpf, have confirmed the results obtained by

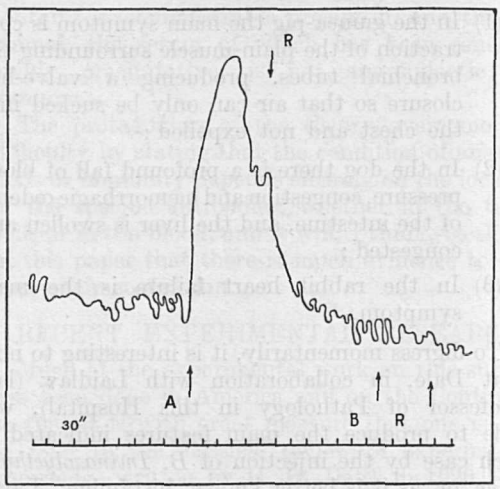


FIG. 3
Passive sensitisation with serum from guinea-pigs anaphylactic to horse serum. Perfused. Bath volume 20 c.c. A, 0.05 c.c. horse serum ; B, the same—(*Jour. of Pharm. and Exp. Therap.*, Vol. IV, p. 198, Fig. 15)

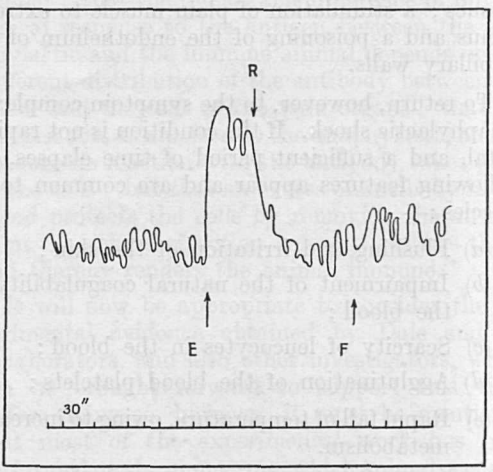


FIG. 4
Same experiment as in Fig. 3. After sensitisation in vitrio by soaking for 2½ hours in 10 per cent. serum from horse sensitive guinea-pigs. E, 0.05 c.c. horse serum ; F, the same—(*Jour. of Pharm. and Exp. Therap.*, Vol. IV, p. 199, Fig. 16).

Dale, and from these certain conclusions may be drawn. It will be seen that there are two ways in which an animal can lose its specific sensitiveness : (*a*) By reacting to an effective but non-fatal dose of the antigen, which will temporarily free the cells from antibody—this is known as desensitisation ; (*b*) by continuing the injections at suitable intervals, so that there is excess of protective antibody in the circulating blood—the condition is then one of immunity.

Dale himself concludes " that anaphylaxis in the guinea-pig is the result of location of the

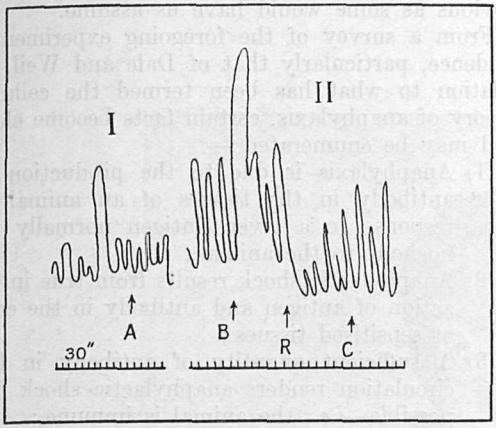


FIG. 5
I, control horn of normal uterus; II, second horn of same after perfusion for 5 hours with 20 per cent. anaphylactic serum. At A and B, 0.5 c.c. horse serum—(*Jour. Pharamacol. and Exp. Therap.*, Vol. 4, p. 206)

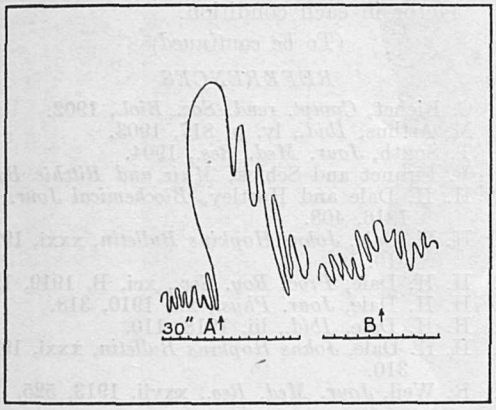


FIG. 6
Washed plain muscle from guinea-pig rendered immune to horse serum. At A, 0.5 c.c. horse serum (in 250 c.c.)—(*Jour. Pharamacol. and Exp. Therap.*, Vol. 4, p. 194).

antibodies in the tissue cells, and that a true anaphylactic reaction can be obtained without the intervention of the blood."

Although, as I have already mentioned, the experimental evidence is limited, most observers, I think, now accept the above observations as fundamentally true; nevertheless, there is another group of theories of anaphylactic reactions which must be mentioned. Their inception was due to the fact that they did to some extent account for the remarkable resemblance between anaphylactic shock and the action of naturally protein derivatives, as I have already indicated. They may be termed the humoral theories, and they have in common the supposition that a toxic condition or substance arises in the blood to which the symptoms are due. Under this grouping three types will be mentioned, and the objections to their acceptance advanced.

(1) The earlier conception of this type held that the anaphylactic condition was dependent on the action of a highly specific ferment capable of hydrolysing the particular antigen to which the animal had become sensitive, and no other.

Briefly expressed, the objections to the theory are that it postulates the existence of ferments having a more specific relation to protein substrate than we at present know them to possess, and that on quantitative considerations it is somewhat fantastic; for instance, .05 milligrams of pure egg albumen will kill a guinea-pig rendered sensitive to it, while 10 times this amount of histamine is required.

(2) A later theory stated that the antigen antibody complex formation removes the antitryptic factor in normal blood, releasing the tryptic factor and thereby bringing about autodigestion of the blood proteins.

(3) More recently the theory has been advanced that the antigen antibody complex formation disturbs the equilibrium of the plasma colloids, bringing about reactions similar to those which precede clotting, and thereby producing a toxicity of the blood, or, in some vaguer way, rendering it toxic by a disturbance of the state of colloidal solution.

In connection with these theories an enormous amount of work has been done on the production of toxic serum or anaphylatoxin, as it has been called, and when we come to consider the evidence put forward in support of these theories we find that nearly all of it rests on the possibility of artificially producing or increasing the toxicity of blood serum in vitrio. Now, serum can be rendered toxic in many and various ways—by incubation with a specific precipitate, by shaking with chloroform, by incubation with emulsion of dead bacteria, by contact with akolin, with sols of agar-agar, silica, starch, insulin or heat coagulated protein. Some of the methods have an apparent relation to the anaphylactic phenomenon, as, for instance, the first one mentioned, while in other cases the connection is remote. In some instances the toxicity is accompanied by autolytic cleavage of the serum proteins, while in other instances this cannot be demonstrated. Our knowledge of the nature of the changes which take place in the serum and give it the power of producing such symptoms is, however, by no means complete. Nevertheless, if these procedures in vitrio really represent a process taking place in the blood in anaphylactic shock, it is to be expected that the injection of such substances into the living animal

would produce some result. Experimental observations have shown that sols of agar and starch can be injected with impunity into the guinea-pig's circulation; also that the injection of antigen simultaneously with antibody has no effect. Again, the rarity with which anaphylactic serum can be rendered toxic by contact with the antigen is to be contrasted with the ease and regularity with which toxicity is acquired by contact with agar, starch and coagulated proteins, which substances have no power of producing anaphylaxis in vitrio. But, as Dale so aptly points out, the great difficulty in accepting such evidence is the fact that the investigators seem to have overlooked the point that what they investigated and observed was a general toxic reaction and not an anaphylactic one, for, as has already been pointed out, the symptom complex is not characteristic of anaphylaxis. The essential feature of experimental anaphylaxis—and this must here be emphasised—is the fact that the anaphylactic reaction is brought about by a substance which is normally innocuous, for it has never been proved that the injection of antigen into an anaphylactic animal produced a toxicity of the serum similar to that produced by the above-mentioned procedures, and until this is demonstrated such evidence must be rejected.

Further, such evidence sheds no light on the relation of anaphylaxis to immunity or on the production of passive anaphylaxis as observed in the guinea-pig. Nevertheless, it is not impossible that the formation of toxic substances may play some part in the production of anaphylactic shock, especially in other species in which the problem has not been so thoroughly investigated, but it is to be doubted if the relation is so direct and obvious as some would have us assume.

From a survey of the foregoing experimental evidence, particularly that of Dale and Weil, in relation to what has been termed the cellular theory of anaphylaxis, certain facts become clear and may be enumerated:—

(1) Anaphylaxis is due to the production of antibody in the tissues of an animal in response to a given antigen normally innocuous to the animal;
(2) Anaphylactic shock results from true interaction of antigen and antibody in the cells of sensitised tissues;
(3) A sufficient quantity of antibody in the circulation renders anaphylactic shock impossible—*i.e.*, the animal is immune;
(4) The anaphylactic reaction is strictly specific in experimental observation;
(5) The condition of the anaphylactic animal is a phase in the production of immunity, the location of the antibodies being the dominant factor in each condition.

(To be continued)

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Old Books in the Wills Library

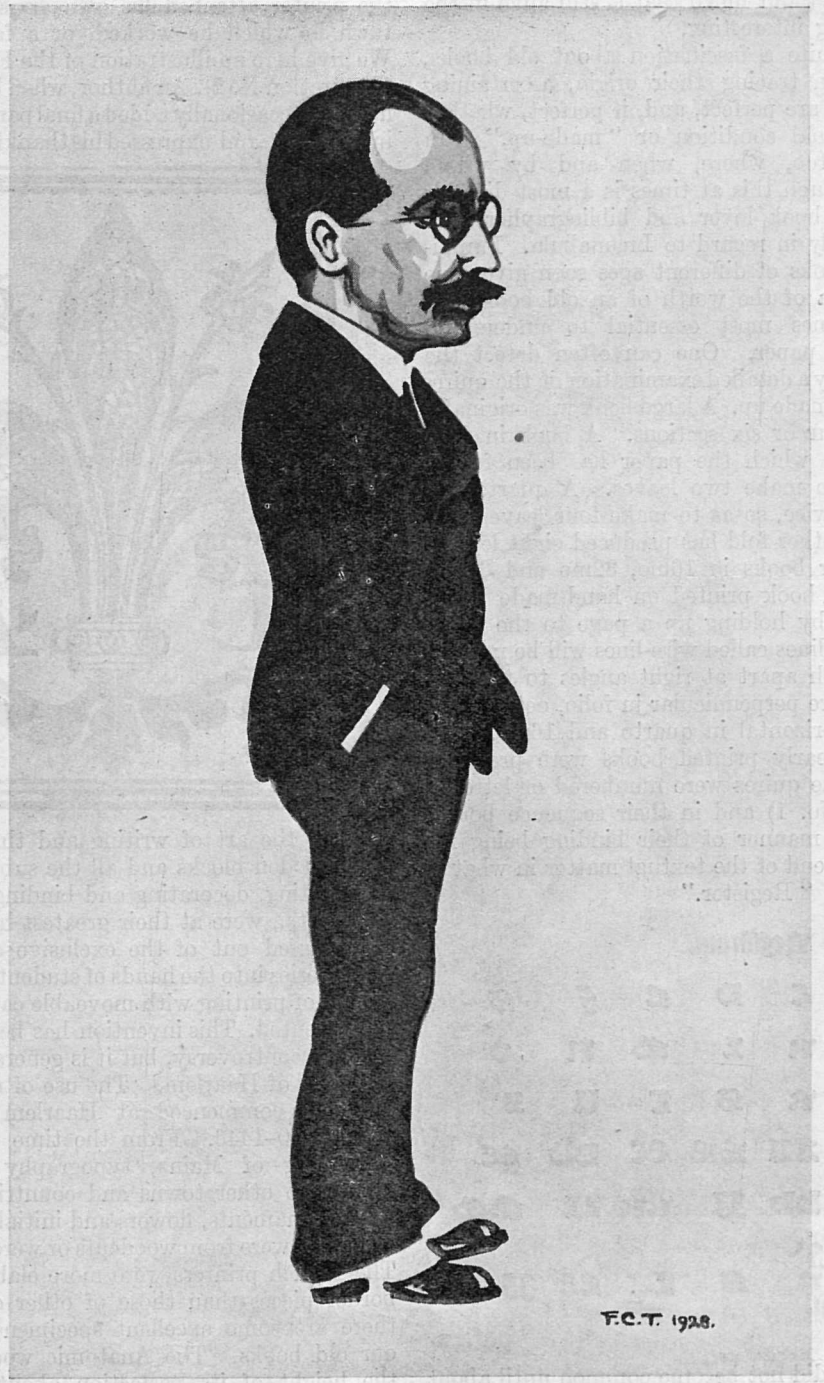
By G. A. R. Winston, Wills Librarian

THIS article is not intended to cover the whole subject of old and rare books, but rather to stimulate a little interest in some of the old volumes in the Wills Library. Judging by the lack of interest displayed it is not generally known that the Library is the proud possessor of some very old and valuable works, and to call attention to their existence may arouse a desire to delve more deeply into their pages.

Quite recently, at a meeting of the Physical Society, it was my privilege to attend a most interesting talk, given by Dr. Maurice Shaw, on "Hidden Treasures in the Wills Library." He spoke of the first editions in the Library, and particularly of works by Galen, Jenner, Harvey, Glisson and many other eminent men. One of the most interesting features embodied in the address was a brief description of the binding, paper, folding and the various ornamentations and engravings of the early printed books. It will, therefore, be of advantage before mentioning the various publications to cover this part of the subject quite briefly, as an introduction to a more detailed account of the books themselves.

In many ways the essence of book collecting is identical to that of stamp collecting. It might be argued that there is not much use reading these old books, because they cannot possibly be used to any useful purpose. The common opinion is that a book has no value unless it is rare, but even this quality is subordinate to that of interest, and it is certain that the old books which we possess in the Wills Library are both rare and interesting.

When a library grows the books which were the

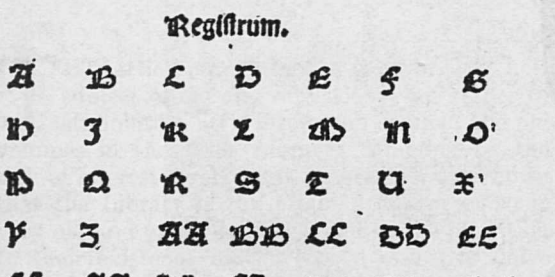


A New Note in Dental Surgery

tools of one generation pass out of use, and they become a sort of dead stock—never perhaps to be used again—but from the dead stock it is possible to pick out much that is still alive in the sense of being interesting.

There is quite a fascination about old books, particularly in tracing their origin, ascertaining whether they are perfect, and, if perfect, whether in their original condition or "made-up." In discovering, too, where, when and by whom printed, although this at times is a most difficult task for the book lover and bibliographer, and more especially in regard to Incunabula. Familiarity with books of different ages soon gives one a general idea of the worth of an old book, but it is sometimes most essential to understand something of paper. One can often detect the perfect copy by a detailed examination of the quires of which it is made up. A large book was originally printed in four or six sections. A book in folio means one in which the paper has been folded once, so as to make two leaves. A quarto has been folded twice, so as to make four leaves. In an octavo another fold has produced eight leaves, and so on for books in 16mo, 32mo and 64mo. The size of a book printed on hand-made paper is recognised by holding up a page to the light. Certain white lines called wire-lines will be noticed about one inch apart at right angles to the fine lines. They are perpendicular in folio, octavo and 32mo, and horizontal in quarto and 16mo.

When the early printed books were prepared for binding the quires were numbered or lettered (illustration No. 1) and in their sequence bound together, the manner of their binding being recorded at the end of the textual matter in what is known as the "Register."



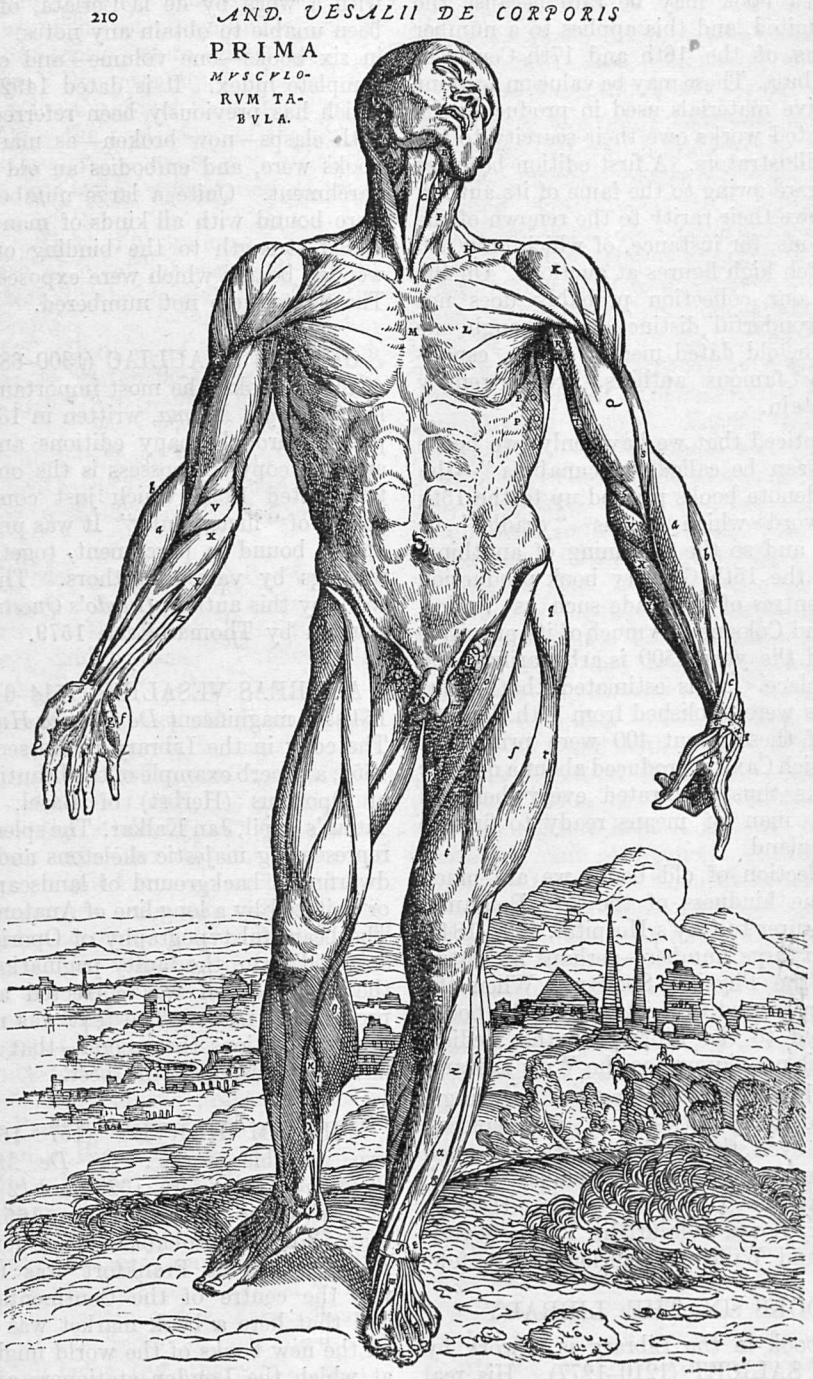
Title pages did not become common until about 1520, and in consequence many of the old books do not contain them, but in order to trace the date of publication, by whom and where printed, or to obtain any further information it is necessary to refer to the colophon, which is a space reserved for a paragraph at the end of the book to which the printer attached his own arms, those of the town in which he worked, or a fanciful design. We give here an illustration of the Florentine Lily, (illustration No 2). An author, when he had finished his book occasionally added a final paragraph recording the fact and expressed his thankfulness to God.

When the art of writing and that of printing from wooden blocks and all the subsidiary arts of illuminating, decorating and binding manuscripts, books, etc., were at their greatest height and had long passed out of the exclusive control of the monasteries into the hands of students and artisans, the art of printing with moveable cast-metal types was invented. This invention has been the subject of much controversy, but it is generally attributed to Coster of Haarlem. The use of movable types therefore commenced at Haarlem between the years 1440–1446. From the time of Coster and Gutenberg of Mainz, typography spread very rapidly to other towns and countries.

The ornaments, flowers and initials commencing a chapter were from woodcuts or were cut on metal. The French printers were more elaborate in their border pieces than those of other countries, and there are some excellent specimens in a few of our old books. The Anatomic woodcut reached the height of its perfection about the time of Vesalius—an example of which is shown (illustration No. 3)—while the 17th century is considered to be the great age of copper plate engraving.

Early printed books were most beautifully bound, usually in leather. A work by Saliceto—which is mentioned later—is bound with wooden boards, covered in stamped leather and ornamented with patterns. This bears a great similarity to the binding of Nicholas Eve of France, who was considered a great master in that art.

The Wills Library possesses about 585 separate works published before 1800. These are made up as follows: 15th Century, 2; 16th Century, 13;



17th Century, 110; 18th Century, 460. It will be seen that some of these works have been in existence for over 300 years, the majority at least 200 years, and from this collection it will be realised that there are many reasons besides that of age which adds dignity and interest to them. For instance, a book may be rare because the edition was limited, and this applies to a number of publications of the 16th and 17th Centuries besides incunabula. These may be value on account of the expensive materials used in producing the book. Illustrated works owe their scarcity to the fame of their illustrators. A first edition becomes valuable and rare owing to the fame of its author. Many others owe their rarity to the renown of the printer. Caxtons, for instance, of which only 650 are known, fetch high figures at auctions. On the score of age our collection probably does not possess any wonderful distinction, although one thing is certain, old dated medical books, especially those by famous authors, are extremely difficult to obtain.

It will be noticed that we have only two books which rightly can be called "Incunabula"—the term used to denote books printed up to the 15th Century, a word which means "cradle" or "birthplace," and so the beginning of anything. By the end of the 15th Century book production in the great centres of the trade such as Venice, Lyons, Paris and Cologne lost much of its primitive character, and the year 1500 is arbitrarily taken as a halting place. It is estimated that about 40,000 editions were published from 15th Century presses, and of these about 400 were printed in England, of which Caxton produced about a quarter Venetian books thus penetrated everywhere, as there was no man of means ready to finance printing in England.

For our collection of old books we are much indebted to the kindness of the late Benjamin Harrison, Treasurer to Guy's Hospital, 1797–1848. He presented a large number—perhaps his entire collection—to the Physical Society. When the Society's library ceased to exist in 1852 the books were transferred to the Library of the Medical School, which is now known as the Wills Library.

A pleasant hour could be spent "browsing" over the colophons, title-pages, frontispieces, woodcuts and even the subject matter of such famous authors as Ægineta, Albinus, Beyeri, Cheselden, Guy de Chauliac, Galen, Harvey, Haller, Hunter, Lowe, Mercurialis, Parey, Severinus, Vesalius and Willis, to mention only a few.

OLD BOOKS IN THE LIBRARY

The oldest book in the Library is a work by SALICETO or SALICET (1210–1277). His real name was GUGLIELMO SALICETTI, and he was the ablest Italian surgeon of the 13th Century. As a Professor at Bologna during 1268–75, he completed his *Cyrurgia*, which was first printed in 1476. The copy in the Wills Library is dated 1489, and was printed at Venice. It is bound up with a work by de la Cerlata, of whom I have been unable to obtain any notes. This is written in six books—one volume—and contains a very complete index. It is dated 1492. The binding which has previously been referred to was fitted with clasps—now broken—as many of the older books were, and embodies an old manuscript on parchment. Quite a large number of old books were bound with all kinds of manuscripts to give added strength to the binding or to cover the wooden boards which were exposed on the inside. The pages were not numbered.

GUY DE CHAULIAC (1300–68) was a writer of many books, the most important of which was his *Chirurgia Magna*, written in 1363. This book passed through many editions and translations, and the copy we possess is the one in the Latin text dated 1499, which just comes within the sphere of "incunabula." It was printed at Venice and is bound in parchment, together with other writings by various authors. There is another work by this author, *Guydo's Questions*, printed at London by Thomas East, 1579.

ANDREAS VESALIUS (1514–64) published in 1543 his magnificent *De Fabrica Humani Corporis*. The copy in the Library is the second edition of 1555, a superb example of the beautiful typography of Oporibus (Herbst) of Basel, illustrated by Titian's pupil, Jan Kalkar. The splendid woodcuts, representing majestic skeletons and flayed figures dwarfing a background of landscape were copied or imitated by a long line of Anatomic illustrators. The beautiful typography of Oporinus appears in enlarged form, the faulty pagination and index of the 1543 edition was corrected and many improvements made. The text was revised, and of the two editions the second—that is, the one we have—is considered the best.

WILLIAM HARVEY (1578–1657) published two valuable works: (1) *De Motu Cordis et Sanguine*, Frankfort, 1628, and (2) *Exercitationes de Generatione Animalium*, ..., 1651. It is said that Harvey's probable reason for printing the *Exercitationes* at Frankfort was that this city was the centre of the Continental book trade, and that here a book market was held at which all the new books of the world might be seen and at which the London stationers attended.

this subject in its entirety, and this first edition shows us that the long-standing want is fulfilled.

The journal contains many excellent original articles, prominent among which is Professor Fullerton's article on "Perineal Drainage of the Bladder after Suprapubic Prostatectomy"—a method which has much to commend it, especially in cases which are septic before operation.

The section on "Diagnosis by Pyelography," by Messrs. R. Gordon-Craig and R. K. Lee-Brown of Sydney, indicates the vast scope of the pyelogram, though considerable experience must be necessary in the radiological appearances of these pyelograms.

Several other articles by prominent surgeons and scientists are of great interest and of considerable help, both to the specialist and to the general practitioner.

An exhaustive collection of abstracts from current literature is contained towards the end of the volume and is of great use in making references.

This journal is likely to be of considerable utility to all in the medical world from the student to the specialist, and we wish it a long and flourishing existence.

The Science and Practice of Surgery. By W. H. C. Romanis, M.Ch.(Cantab), F.R.C.S.(Eng.), and PhilipH.Mitchiner,M.S.(Lond.),F.R.C.S.(Eng.) In 2 Volumes. 2nd Edition. Published by Messrs. J. & A. Churchill. *Price* 14*s. each.*

THE appearance of a second edition within 18 months of the first marks out this work as a surgical best seller, and reference to Mr. Grattan amply bears out this impression. Obviously, the average student found the existing surgical text books either too old-fashioned or too advanced, too long-winded or too concise, and has expressed his preference for a compact yet completely up-to-date account of the practice of surgery in no uncertain manner, while here and there a general practitioner or even a surgical specialist has found the new work attractive and useful for matters of reference.

The opportunity for revision and improvement has not been neglected in the preparation of a second edition. Prominence has been accorded to the use of radium in the treatment of malignant disease, accounts of more recently established procedures such as the injection treatment of varicose veins and peri-arterial sympatheticectomy have been introduced, and certain faulty X-ray illustrations removed and replaced. Incidentally, there still remain a few X-ray figures which by reason of over reduction and the use of a positive print fall below the otherwise excellent illustrative standard.

The book is produced in Messrs. Churchill's best manner—that alone is sufficient guarantee of an excellent article—and is in all ways worthy of the consideration of every serious student who happens to be contemplating an investment in this direction.

Chemotherapeutic Researches on Cancer. By A. T. Todd and Others. Published by Messrs. J. W. Arrowsmith, Ltd. *Price* 2*s.* 6*d.*

FOR 15 months 10 beds were set apart at the Bristol Royal Infirmary for the admission of advanced cancer patients, patients past all hope of treatment by surgery, radium or X-rays, on whom lead compounds might be used experimentally. This publication is the summary of results obtained from these cases and a statement of the present position of lead in the treatment of malignant disease. Encouraged by the work of Professor Blair-Bell and others, the Bristol workers instituted experiments on rats and then applied them to man. Finally, a colloidal compound of lead and selenium was found to be the most effective and at the same time the best tonic. This compound, which has been called D_4S, may be obtained from the British Drug Houses, Ltd. The authors do not claim to have found a cure for cancer, but, with some justification from statistical proof, they do claim to have supported Blair-Bell's theory that malignant growth may be held in check and rendered relatively painless even when applied late in the disease by the use of lead, which may be combined most successfully with surgery and with X-rays. The treatment, with results of 44 cases, are quoted in detail, particular stress being laid on the necessity of testing renal and hepatic function before starting treatment, and of frequent leucocyte counts in regulating the dose. Then there are notes on the preparation of colloidal hydrosols for intravenous use and on the manufacture of lead selenium compounds.

The whole makes extremely interesting reading, though the copious tables and strings of comparative figures are rather wearisome, and strikes us as being an entirely honest and unembroidered estimate of a conscientious and valuable piece of research.

MEDICINE

Modern Methods of Feeding in Infancy and Childhood. By Donald Paterson and J. Forest Smith. 2nd Edition. Published by Messrs. Constable & Co. *Price* 7*s.* 6*d.*

IT is now four years since the first edition of this monograph, intended to aid the practitioner in the onerous task he often has of feeding in infancy and childhood. The second

edition contains a chapter on the feeding of children in illness and up to school age. There is little to criticise in the diets for the sick child, but the authors expect much from the working man's pocket and the working woman's time when they table the diet for those of one to two and two to five years respectively. Nevertheless, it is the ideal at which they are aiming, and if their object is achieved there should be a wholesale revival of the fishing industry, as well as a fillip to agriculture, due to the increased demand for meat.

The book is very complete in all its descriptions, and the authors have considered the "child" as well as the "diet." They are dogmatic where a principle is concerned, but if there are two opinions on any questions they present them impartially. Rightly, they have been most dogmatic on the supreme virtues of breast feeding. The appendix on the preparation of food stuffs is most useful.

As the authors state, there is too often a feeling that the subject can be delegated to a nurse or that it is too small a concern for the practitioner. The book should dispel this opinion, and reading it will repay both practitioner and student.

Insomnia and Drug Addiction. By P. C. Collingwood Fenwick. Published by Messrs. H. K. Lewis & Co., Ltd. *Price* 2*s.*

THIS little book is written to fill what the author believes to be a vacant gap in medical education, and also to let the profession know the folly of drug taking, as well as its treatment when it occurs. The psychology of the drug addict is well presented, both in the case of the morpho-maniac and the chronic alcoholic.

The descriptions of the symptoms are obviously written from personal observation, which is not likely to be the lot of many medical students in the case of the morphine or cocaine addict, although he has more opportunity of seeing the chronic alcoholic. The treatments are described in detail and, as in the case of most diseases where there are several courses which may be adopted, the prognosis is none too cheerful.

The small price of the book is a great advantage, and its brevity should appeal to most students.

Self-Care for the Diabetic. By J. J. Conybeare, M.C., M.D.Oxon., F.R.C.P. 2nd Edition. Published by Messrs. Humphrey Milford at the Oxford University Press. *Price* 3*s.* 6*d.*

THIS book contains in some 60 pages or so all the information required by the average diabetic for a successful co-operation with a medical man in the treatment of his own case, and the rapid appearance of a second edition is sufficient indication of its value. Particular attention is paid to the instructions regarding the use of insulin in its various strengths, and stress is laid on the possibility of over-indulgence in much advertised so-called diabetic foods.

Essentially a practical manual addressed to the patient rather than the doctor.

Diseases of Children. By Garrod, Batten, Thursfield and Paterson. Pp. 1065. Published by Messrs. Arnold & Co. *Price* 45*s. net.*

THIS book, which is the second edition of the work edited by Garrod, Batten and Thursfield, gives a comprehensive survey of the diseases of children. With the advance of medicine, it becomes almost impossible for one or two authors to write a book like this, and the editors are to be congratulated in getting the help of 36 different contributors, who have aided in bringing the work up to date. The style is beautifully lucid. We have not been presented with a mere catalogue of diseases, but are offered a series of well-written chapters, each of which is a delight to read; the work is illustrated by 205 well produced diagrams and two coloured plates. We can confidently recommend this book to the student as a text book which he will read and re-read, and to the practitioner as a valuable book of reference.

Erythema Nodosum. By J. Ordry Symes, M.D. 1st Edition. Published by Messrs. John Wright & Sons, Ltd. *Price* 5*s. net.*

THIS little book, only 70 pages of text, is a very complete study of a rather obscure disease by a consulting physician to the Bristol General Hospital. The author has obviously taken considerable interest in his subject and has followed up 250 Cases in the past 30 years. He writes an excellent description of the clinical manifestations assumed by the disease, which he quite properly classifies as a separate entity, and their numerous variations. While agreeing with him that erythema nodosum very probably bears no direct relationship to acute rheumatism, we are not convinced by his arguments in favour of its relationship to tuberculosis. The figures quoted, both those of the author himself and of other workers, are no more than mildly suggestive of such a relationship and there is no pathological support to the theory. Further, no mention is made of mercorochrome in the treatment of the disease. The book is interesting, is thoroughly well written and will certainly repay study.

Elementary Medicine in Terms of Physiology. By D. W. Carmalt Jones, M.A., M.D., F.R.C.P. Published by Messrs. H. K. Lewis, Ltd. *Price* 12*s.* 6*d. net.*

UNTIL quite recently to pass the second examination meant crossing the Park and meeting that new and very baffling creature, the patient, infinitely more puzzling and difficult to deal with than any corpse or chromosome. A new technique had to be acquired, a habit of tact developed in purposive questioning, while at the same time touch, sight and hearing were sharpened up and taught the rudiments of clinical investigation. All this to a pleasant background of tea-making and trolley pushing for the first firm that claimed our allegiance. Everything went well as a rule, but quite often the tea and the trolley became more important than the patient, or the whole thing was given up in despair. The patient hardly seemed worth all this questioning, percussing, palpating, and the whole business to have no earthly connection with vagal inhibition or the membrane equilibrium that were so important such a short time ago. So now the clinical ice is broken more gently ; the several arts of the report and physical diagnosis are the sole subjects of months of interesting tuition in skilled hands. There is, in fact, a " pre-clinical " period and a need for literature dealing with the surgical anatomy and medical physiology that serve to bridge the ancient gap between school and ward.

So far, most of the medical physiology has tended to be more physiological than medical—a view of Hunt's House from the Medical School roof, so to speak. In the volume now offered by Dr. Carmalt Jones we have exactly the opposite point of view, namely, that of a clinician who has sought the light of physiology rather than a physiologist who patronised medicine with a flicker of the torch he has dedicated to other uses. The result is excellent in every respect and very readable. To consider details, the account of the digestive system is based on the extensive work of Hurst and Ryle and the teaching of the Guy's school closely followed. The section on diseases of the kidneys, a subject so often shirked by the academic physiologist, is treated with admirable clarity, and the limitations of medical knowledge in this direction frankly stated. Our one complaint is the almost complete absence of diagrams as an aid to the text, a fault easily remedied in further editions—a medical *aperitif.*

For the pre-clinical and for the post-clinical an admirably physiological port.

Essentials of Infant Feeding. By E. A. Barton. 2nd Edition. Published by H. K. Lewis & Co., Ltd. *Price* 3*s.* 6*d.*

THIS book is a most valuable contribution on a difficult subject for the medical student.

The average newly qualified man is as ignorant of infant feeding as the infant for whom he has been asked to prescribe a diet. A pleasant three hours with this small work will at least teach him the essentials on which to base any diet.

The book has been divided by the author into three parts—Breast Feeding, Milk and Artificial Feeding. Under the second heading Dr. Barton has not sufficiently stressed the value of lactic acid milk, which is now considered to be one of the great standbys in the feeding of difficult babies, whilst the third part would be the better for a short and dogmatic paragraph on the relative values and uses of the more popular artificial foods.

The book is pleasantly written and possesses the great virtues of brevity, clarity and cheapness, but why has the author such a penchant for split infinitives ?

DIAGNOSIS

An Index of Differential Diagnosis. Edited by Herbert French, C.B.E., M.A., M.D.Oxon., F.R.C.P.Lond. 4th Edition. Published by Messrs. John Wright & Sons, Ltd. *Price* 63*s. net.*

THIS work is not only a monument to the diagnostic ability of its editor, but remarkable in its rapid elevation to the position of a classic among medical books of reference. It is nothing if not complete, and an index already is furnished with an index to itself which carries cross reference to the furthest possible limit.

The appearance after 10 years of a fourth edition offers opportunity for the inclusion of several new articles in the letterpress, and is accompanied by several alterations in the illustrations. In general substance and style the book remains the same, practical utility in diagnosis having been the criterion necessary to determine the inclusion of new matter.

Out of sheer curiosity as to possible fallibility, the book was subjected to personal reference daily on a variety of diagnostic problems cropping up during a month's work on the medical side of the Hospital. On one occasion only did it fail, and this failure was eventually discovered as a triumph over the reviewer's ignorance of correct nomenclature.

If somewhat expensive for the student, well within the means of the average practitioner, and

essential to the library may be regarded as a fair view of the outstanding contribution to the art of diagnosis.

An Index of Symptomatology. By Various Writers. Edited by H. Letheby Tidy. Published by Messrs. John Wright & Sons, Ltd. *Price* 42*s.*

THIS is the fourth volume in the well known series of indices, the other three being of *Treatment, Differential Diagnosis* and *Prognosis.* In general appearance and arrangement it resembles the other volumes, diseases being in alphabetical order, though, from the title of the book, one might reasonably have expected the *symptoms* to have been arranged alphabetically, whereas they are not even indexed. The work covers the whole of medicine, surgery, gynæcology, obstetrics and the special subjects, including a long section on tropical medicine, the object being to give a clear picture of a typical case of any particular condition. The book, therefore, is not in any sense an index of differential diagnosis. Further, the description of each condition is limited to the clinical picture, and pathological and chemical tests are barely mentioned. This fact makes the book, perhaps, less acceptable to the busy practitioner who wants to clinch a provisional diagnosis, but makes the work more readable and keeps it within the scope of one volume. As to the merit of the matter itself there can be no doubt. The typical symptoms of each condition and the clinical picture thus shown are described clearly and concisely by an expert, 26 well known names being concerned in the authorship. There are 126 illustrations of one kind and another, all uniformly good and helpful.

Altogether, this is an excellent volume, well printed on good paper and pleasantly set out—though we dislike the colour of the cover—and we can confidently recommend it, particularly to students up for their Finals and to recently qualified practitioners, whose conception of a typical case of any particular condition is not yet a very clear one.

OBSTETRICS

Tweedy's Practical Obstetrics. By Bethel Solomons. 6th Edition. Published by Messrs. Humphrey Milford at the Oxford University Press. *Price* 25*s.*

THIS edition of Tweedy's well known book is edited and largely re-written by Bethel Solomons, who helped Dr. Tweedy with the fifth edition.

The book, as a text book, has a unique quality about it in that it represents the views and teaching of a famous obstetrical unit at the Rotunda Hospital Dublin, of which Dr. Solomons is the present Master, although, as the new author points out in his preface, the view of other teachers and different schools of thought are also considered. And so, whether one agrees with all the methods advocated and views expressed or not, the book must command attention from anyone interested in obstetrics.

The author has added, in this edition, an introductory portion by Prof. Bronté Gatenby on anatomy and embryology, thus departing a little from Dr. Tweedy's original idea of giving an entirely *practical* resumé of the subject for the benefit of newly qualified practitioners. Again, in Part II, that dealing with normal pregnancy, labour puerperium, additional physiological matter has been inserted, and in Part III, on abnormal pregnancy, the theories of toxæmia are discussed fully. These additions do not detract at all from the purpose of the book, and certainly demand a place in any representative text book on obstetrics. One particularly important addition is the section on ante-natal care in Part II, largely the work of the author's assistant, Dr. Ninian Falkiner.

As was to be expected, views on certain points have changed considerably since the last edition four years ago. For instance, vaginal plugging in accidental hæmorrhage, once figuring strongly in the Rotunda teaching, is now rarely employed. Also opinion on the puzzling question of primary uterine inertia has changed, though the fog surrounding the subject is hardly less dense.

Several, to our mind, unnecessary pages are filled with descriptions of internal pelvic measurement by over-elaborate machines, and we doubt the necessity or even advisability of doing rectal, as opposed to vaginal, examinations during labour. Further, we share no great faith in the method of estimating the size of the fœtal head by measuring those of the father and mother. However, these are small points and depend, very naturally, upon the views of individual teachers. The book has grown in size and has additional illustrations, most of them very good. While not the ideal text book for students—as, indeed, was never intended—it will be found extremely useful to obstetric dressers and to qualified men, and will repay reading as much on account of its pleasant and original views as on the subject matter contained in it.

PATHOLOGY

Surgical Pathology. By Cecil P. G. Wakeley and St. J. D. Buxton. Published by Messrs. John Wright & Sons, Ltd. *Price* 45*s.*

IN spite of the large number of surgical pathology books in vogue there is always room for another good one, and this book is very good

indeed. In their preface the authors state that their aim in producing this volume is to help the reader in his clinical work. And that is just the impression we get from reading the book. Each pathological picture drawn for us is neatly framed in a clinical setting. We are adding to our knowledge of clinical cases actually observed and not "cramming" pathological details that bear no obvious relation to any patient we have seen. So much for the general character of the book.

The arrangement roughly follows that of many other pathology books. The first 50 pages are devoted to general bacteriological and pathological processes, and this is followed by an account of some specific infections from their surgical aspect —such as tuberculosis, gonorrhœa and syphilis. Next, there is a clearly written summary of tumours in general, the illustrations being particularly good in this section. The succeeding 200 pages contain an account of the pathology of deformities, injuries and diseases of arteries, veins, lymphatics, nerves, muscles, tendons, bones and joints. The rest of the book is devoted to regional pathology, with a short terminal chapter on the subject of shock.

Controversial matters are left severely alone, a very wise attitude in a book which will probably become a standard work for students, and in consequence there is little at which one can quibble in the teaching laid down. The illustrations, some of which are culled from a great many authorities and some of which are original, are very numerous and uniformly good. The production of the book is excellent and very pleasant and easy to read. We can thoroughly recommend it from every point of view.

PHARMACOLOGY

A Text Book of Pharmacology and Therapeutics, or the Action of Drugs in Health and Disease. By ARTHUR R. CUSHNY. 9th Edition. Revised by C. W. EDMUNDS and J. A. GURR. Published by Messrs. J. & A. Churchill. *Price* 24*s.*

THERE is an individuality about Cushny's *Pharmacology*, the standard work on this subject in the English language for a generation, possessed by few other text books on any subject.

It reflects the author's broad-mindedness and his sense of humour and humanity, besides being an inexhaustible mine of information. This indefinable spirit of whimsicality pervading the book, exampled by the frequent references to mention of drugs in general literature, is typified in the author's quotation from *The School of Salerne* in the preface to the eighth edition of his book :—

"And here I cease to write, but will not cease
To wish you live in health and die in peace.
And ye, our Physicke rules that friendly read,
God grant that Physicke you may never need."

Since the last edition Professor Cushny has died, but the two distinguished professors who have produced this edition have retained all the old form and character of the book, besides bringing it up-to-date with new references to bibliography and certain additions to the text. The immediate object of the present edition is, apparently, to bring it into line with the tenth edition of the United States *Pharmacopœia*. There is no need to recommend this book—it is too well known—but we reiterate our claim that everyone should possess his Cushny. If the reader lacks interest in pharmacology he will still find the book an excellent entertainment, exceedingly well written.

ANATOMY

Synopsis of Regional Anatomy. By T. B. JOHNSTON. 2nd Edition. Published by Messrs. J. & A. Churchill. *Price* 12*s.* 6*d.*

IT is unlikely that this book will need an introduction to anyone reading a review of it. For revision purposes it seems to us to be ideal. It is short without being deficient, it is well written—a difficult feat in a small revision book on anatomy—being always easy to read, and it shows an extremely clear picture of the anatomy of each part.

The only important change from the first edition is in the terminology. The author has now adopted the New Terminology (Basle Anatomical Nomenclature) with certain modifications. There seems little doubt that this is the uniform anatomical terminology of the future. In his preface the author says: ". . . for the most part the English equivalents of the authorised Latin terms have been used," though he clings to old favourites such as "linea aspera" and "venæ cavæ." Particularly we commend the section on the brain and cranial nerves, which is an exceptionally clear description of a part always very difficult to grasp.

The printing is good and the binding is stronger and more handsome than in the first edition.

A Shorter Anatomy. By E. WOLFF, F.R.C.S. Published by Messrs. H. K. Lewis & Co., Ltd. *Price* 18*s. net.*

THIS book, which contains just over 400 pages of text and 120 figures, is described as being an anatomy "with practical application." It is based on a series of lectures and demonstrations given by the author, who, using old terminology with the new terminology in

parenthesis, follows a "semi-regional semi-systematic" method of description, each part of the body being discussed systematically. This proves a satisfactory method, but it seems unnecessary to reverse the order in which the systems are taken in the lower limb as compared with the upper limb. In fact, the book is rather liberally sprinkled with annoying, if unimportant, inaccuracies. For instance, in the paragraph on the arteries round the knee joint, the inferior *internal* and the superior *medial* geniculate arteries are mentioned. Similarly, in another paragraph the *medial* and *external* anterior thoracic nerves occur.

Again—and this is a more serious inaccuracy—in the description of the axilla on page 32 the long head of the triceps is shown to be the *medial* boundary of the *triangular* space.

These inaccuracies—and there are many others—may be insignificant in themselves, but they detract from the merit of the book, which shows some excellent features. The section on the joints of the lower limb is particularly good, as is the arrangement of the arm muscles for revision purposes, though we should prefer to see the muscular system following immediately upon the bony landmarks.

This book, which is essentially one for revision, is well printed on good paper, and has some well drawn, if rather indistinct, figures. The price we consider to be excessive.

PHYSIOLOGY

Handbook of Physiology. 18th Revised Edition by W. D. Halliburton, M.D., F.R.S., and R. J. S. McDowall, M.B., D.Sc., F.R.C.P. Published by Messrs. John Murray. *Price* 18*s.*

THIS well known book, first published in 1848, has now entered its eighteenth edition, and, losing none of its clear and concise presentation, many new principles of physiology have been introduced.

The chapters on the central nervous system make understanding of this difficult subject easy by simple reference to excellent diagrams. Sherrington's work on excitation and inhibition is clearly set out and the most modern ideas on the conscious states and conditional reflexes are incorporated.

Additions have been made in the following subjects: Formation of Bile, Test Meals, Blood Groups, the Polygraph, recent work on the spleen and Control of Respiration, the Effect of Exercise on Respiratory Changes and other matters. The chapter on the Cellular Contents of the Blood has been revised, but very little mention is made of the stimulus of red cell formation or the importance of platelets.

The growing list of those mysterious bodies called vitamines is well treated and new work on the ductless glands has been introduced.

With the gradual recognition that a sound knowledge of physiology is essential to both surgeon and physician, this new and full treatise on the subject will be welcome to all students, both pre- and post-graduate.

The Protamines and Histones. By the late Prof. A. Kosel, and translated by Dr. W. V. Thorpe. Pp. 95. Published by Messrs. Longmans, Green & Co. *Price* 9*s. net.*

THIS volume represents another addition to the Monograph series on biochemical subjects, edited by Hopkins and Plimmer, and is concerned particularly with the two groups of proteins which are especially abundant in nuclei, and which possess such marked basic properties.

The description given is clear and comprehensive, and at the same time furnishes another view-point for the study of that difficult subject—viz., the properties and structural relations of the protein tubercle. E.C.W.

Fever, Heat Regulation, Climate and the Thyroid-Adrenal Apparatus. By W. Cramer, Ph.D. Pp. 149. Published by Messrs. Longmans, Green & Co., Ltd. *Price* 15*s. net.*

DR. CRAMER has given us a complete account of the results of his work on the inter-relations of a group of ductless glands, on which he has been working for a number of years.

His main thesis is that the temperature regulating mechanism of the body works largely through the thyroid and adrenal glands. Both of these are stimulated by cold and inhibited by heat, and are themselves controlled by their sympathetic nerve supply. The method of attacking this problem has been largely by means of histo-chemical studies of the reactions of these glands to various stimuli. The numerous micro-photographic reproductions are very carefully and neatly reproduced.

Dr. Cramer has done service in drawing attention to one aspect of the action of the sympathetic nervous system which is often overlooked or relegated to a place of secondary importance. E.C.W.

PHYSICS

Physics for Medical Students. By Prof. Sidney Russ, D.Sc. Pp. 255. Published by Messrs. E. & S. Livingstone, 17, Teviot Place, Edinburgh. *Price* 10*s.* 6*d.*

THIS book, the preface states, is intended to cover all generally expected of a student taking the Pre-Medical Examination of the

Conjoint Board. The book is well written and easily read, but is much too scanty for the beginner. The main elementary principles of physics are stated with considerable lucidity, but, unfortunately, the author has not considered it necessary to give a sufficient number of examples to make clear how these principles are applied to the solution of physical problems, and in consequence the novice may encounter difficulties in understanding the implications of these principles. To the student who already has a knowledge of the elementary facts of physics and who is revising his work preparatory to his examination, the book will be of considerable value, and should make a strong appeal.

ANÆSTHETICS

Handbook of Anœsthetics. By J. STUART ROSS and H. P. FAIRLIE. 3rd Edition. Published by Messrs. E. & S. Livingstone.

THIS book is sufficiently concise to render it valuable to the student, and yet the detail of description of the more intricate methods of anæsthesia is great enough to make the book useful as one of reference when one is starting a method for the first time. The good anæsthetist must have experience and confidence. No book can give him the former of these, but a clear idea of the various sets of apparatus in use certainly assists him in the attainment of the latter.

The greatly increased use of nitrous oxide and oxygen in the more major surgery of to-day is met in the present edition by a detailed description of the use of standard models of gas apparatus, while omitting reference to rarer types.

Dr. Fairlie is rather optimistic over the value of the use of ethylene; our perhaps somewhat limited experience with this agent is all but confirmatory.

Intratracheal methods are described with a clearness which is really necessary in view of the increasing prominence they have in surgery.

DENTAL MEDICINE

Dental Medicine. By F. W. BRODERICK, M.R.C.S., L.R.C.P., L.D.S.(Eng.). Published by Messrs. Heinemann. *Price* 21*s.*

IT is the object of the author to demonstrate that the spheres of the dental surgeon and the physician are closely related, and that the realisation of this fact should bring about a closer co-operation between both parties.

The first part of the book is devoted to explanatory chapters on alkalosis and acidosis, with an excellent description of the action of the endocrine glands and of calcium metabolism. They are difficult, and possibly discouraging, chapters for the average dental surgeon, but form a necessary basis to his theories.

He builds entirely on biochemistry, considering the bacteriological side of pyorrhœa alveolaris to be of little importance; in fact, merely the incidental result of an alteration in the soil. There are many who will question that view.

However, he endeavours to prove that a lowering of the pH values of the saliva produces a tendency to caries, the necrosis, with its causative alkalosis, tending to a deposition of sublingual calculus, and so to pyorrhœa.

As the salivary pH varies with the CO_2 content of the blood plasma, the possibility of the relation of dental diseases to general metabolism becomes clearer. It would suggest a general pathological condition or maladaption to environmental circumstances as a basic cause rather than any local condition.

As the salivary pH varies considerably in normal individuals and from time to time in the same person it is obviously difficult to prove its connection with caries and pyorrhœa. But it is a fascinating theory and even if not generally accepted should go a long way to bring about that collaboration between the dental surgeon and the physician which the author so much desires.

Examiners Examined

I HAVE just had an examination and, at first, I was just a little annoyed about it. In fact, it would be more truthful to say that I experienced those emotions described so poignantly by Miss Priscilla Peep in those stirring lines which every student knows so well:—

I had a viva; and, in ire and dudgeon,
I thoughtlessly took up a heavy bludgeon
And battered one hog-mannered old curmudgeon.
Up to the other's chair I quietly stole—
(He sat aloof, as frigid as the Pole)—
And in his ear I whispered, "Get a soul!"

But these emotions were swiftly followed by another, and, as I stood outside that door, I laughed, first soundlessly then aloud, following the best traditions of melodrama. For I had remembered something, something that changed my

fury to contempt and my groans to happy laughter, and this was what I had remembered :—

These two Professors, sitting in the seats of the learned, and coldly dispensing misery year by year, *had made a misleading spelling mistake in the Paper they had set!*

Not, mark you, such a mistake as anyone might make, but an error which lifted the superficial veil of learning and revealed the dust beneath. For they had written "*Ceruminal*" for "*Serumnal*"! How anybody professing to know his subject—which is, I presume, what a Professor professes—could confuse a word meaning "waxy" with a word meaning "of or pertaining to serum," I, as a mere student, cannot say.

However, the damage is done, and the idols have feet of clay. But what delightful vistas such ignorance calls up!

Think of a respected Professor solemnly devouring the *Daily Mail's* serial for breakfast instead of porridge, while reading some patent cereal—probably a variety of oats—in the train; occasionally, perhaps, varying his diet with a solid volume of Bohn and his lighter reading with the more absorbing parts of Bone.

How he would enjoy a High Tee, with sand, where the ordinary mortal must be content with High Tea with sandwiches! A site for saw eyes, indeed!

Misery is Human, but Laughter is Divine; so I have won and am content. B.D.S.

Correspondence

Mr. Tudor and Maternal Impressions

To the Editor of the GAZETTE

SIR,—I was most interested in Mr. Tudor's paper on Maternal Impressions, but I do not believe there is any historical evidence for his statement that during the Reign of Terror "women were common property and that they could be violated or murdered at will."

It is hard to get any idea of the daily life of a great city during a period of strain, but I think that Paris during this time must have been very much like London was during the most intense phases of the late great war. In reading the story of the revolution one must remember that from August, 1792, France was at war, and that the threat to Paris in September, 1792, was infinitely greater than that of September, 1914. Carlyle gives us no insight into the *meaning* of the Terror; probably he was too near to it in time to realise this; he paints it as an end of *crescendo* of happenings from 1789 to 1792. Politically, this may be so, but in the life of the ordinary citizen of Paris I doubt whether it was. It is noteworthy that there was no street fighting during the Terror, nor any scenes such as those of the September massacres. After the Terror such scenes begin again in November, 1794, with the attack upon the Jacobins. During the Terror itself such occasional scenes as Paris sees are peaceful ones, like the Feast of the Supreme Being on June 8th, 1794.

I think we must accept Hilaire Belloc's explanation as to the meaning of the Terror. That it was an extreme example of suppression of any thing that might interfere with the conduct of the war and of the arrest and execution of anyone that might be opposed to it or in any way suspect of being half-hearted in its conduct. We may envisage France as a country ruled under an extreme example of Dora. I can find no evidence that any law was ever passed suggesting anything like women being made common property. The religious ceremony was no longer obligatory to marriage; divorce was introduced and, I believe, that views were put forward by St. Just that the parties to any union not blessed with children after seven years should *ipso facto* no longer be married, but except for these no laws were passed dealing with the relation of the sexes one to another. The country was in such danger that those in power had no time to consider such matters. Paris was threatened along two routes, one that along which we retreated in 1914 and the other the Verdun route. La Vendée was in insurrection, and the country swarmed with sympathisers with the enemy, who denied the Government any right to its existence.

The character of these men was against the institution of such ideas. Danton, twice happily married; Camille Desmoulins, whose love for his wife Lucille is the romance of the Revolution; Robespierre the incorruptible self-worshipper; St. Just the impossible dreamer, and behind all, Carnot, the iron-willed War Minister and Administrator, a Kitchener, with double his determination and all his singleness of purpose.

I believe that during the Terror life in Paris was more orderly than it had been during the previous 100 years. Carlyle gives us a few vivid lines showing that life went on very much as it does now.

"How many hammermen and squaremen, bakers and brewers, washers and wringers over

this France must ply their old daily work, let the Government be one of Terror or one of Joy ! In this Paris there are 23 theatres nightly ; some count as many as 60 places of dancing. The playwright manufactures pieces of a strictly Republican character. Ever fresh novel-garbage, as of old, fodders the circulating libraries."

The daily procession of the tumbrels and executions were the only scenes that we might not have seen during the period 1914–1918, and they only affected a small area of Paris.

From the Conciergerie, where the prisoners spent their last night, the tumbrels passed along the Quai de l'Horloge and crossed from the Ile de la Cité to the north bank of the Seine by the Pont Neuf. They turned to the left along the Quai de Louvre and then to the right in front of the palace to reach the Rue St. Honoré, then called the Rue de la Convention. At the end of this they turned again to the left with their backs to where the Madeleine now stands and reached the Place de la Résolution, now the Place de la Concorde.

The distance is not long, considerably less than that along which our own condemned passed when going from Newgate or the Tower to Tyburn, where the Marble Arch now stands, and we learn from Pepys how little that affected the life of London. Even when " une foule immense et silenceuse qui ne montrait pas de joie et n'osait montrer d'horreur " had assembled, as when Danton went by, the sight would have left unaffected the greater part of Paris. In the quiet of the late afternoon the noise would not have reached to the Porte St. Denis ; if there were any dwellers left in the Quartier de Marais they stayed carefully indoors, while it is probable that life went on in the Quartier Latin over the river very much as it does now, except for the meetings of the Cordeliers.

Even if they attended the executions these mothers saw at work a machine, the guillotine, which was designed for the more kindly execution of the human being. Everything was done in decent order, with the highly efficient Sanson in charge. It was quite a different scene from that which a pregnant woman might have seen in London in the time of Elizabeth, the stark horror of which has recently been told us by Lytton Strachey in his description of the execution of Ferreira and Tinoco with Dr. Lopez.

It is a remarkable thing that such rumours of sexual orgies are told of the periods of great upheavals. There was the same story of women being made common property during the recent Russian revolution, and there was our own story of the war-babies in the autumn of 1914. According to this there was to be an enormous increase of illegitimate children born in the spring of 1915. Old women of both sexes talked as though every new recruit to the colours immediately seduced someone as soon as he had joined up.

Tradition relates that the following May the total result was one brace of twins and an ovarian cyst. The idea is hardly dead even yet, for there is a type of literature which assumes that every young woman of the period either gave herself to her lover or was prepared to do so on the eve of his departure overseas. The last example of this is in Eugene O'Neill's *Strange Interlude*. I think the mental state that envisages this must be closely allied to that which imagines a state of society where any man is allowed to work his will upon any or every woman that he meets in the street, for that, I imagine, is what Mr. Tudor meant by his statement I have quoted.

The illustration of medical problems from history is always a matter of interest. It may even open up new lines of thought or confirm work that has already been done. One may instance Dr. Lawson Dick's book on *Rickets* or Dr. Raymond Crawford's *Plague and Pestilence in Literature and in Art*. It is, however, important that the illustrations should be founded on fact, and this must be my excuse for this letter.

Yours, etc.,

Guy's Hospital, S.E.1. T. B. LAYTON.

Uræmia and Coma

To the Editor of the GAZETTE

SIR,—Mr. Thompson asks me whether uræmia causes unconsciousness. The question is difficult to answer as " unconsciousness " is an indefinite term. Last year a young woman died under my care of " uræmia," with all the classical evidences of chronic interstitial nephritis. On admission she was drowsy and dull and became comatose for two or three days before death.

The case I recorded in the GAZETTE, and to which Mr. Thompson has referred, was not comatose when the diagnosis was in doubt. By the time he became so it was clear that he had a cerebral tumour. I asked my colleague, Dr. Burton Fanning, whose clinical experience is a very large one, the question Mr. Thompson puts me, and he replied that he was sure uræmia is a cause of coma.

We are all indebted to Mr. Thompson for raising the point.

The more one sees of disease the more one realises how often a diagnosis depends on the correct answer to similar minor but important questions.

Yours, etc.,

ARTHUR J. CLEVELAND.

224, Unthank Road, Norwich.

Dental Society's Annual Dinner

To the Editor of the GAZETTE

SIR,—I fear that you have misquoted me in the account of the Annual Dinner of the Dental Society which appeared in your last number. I was careful to explain that although Mr. Kelsey Fry had resigned his appointment as Director of the Dental Prosthetic Laboratory, he would continue to act as an Assistant Dental Surgeon, and would in future carry out the ordinary duties attached to that appointment. I should be glad if you could find room to include this correction in your next issue, as otherwise it would appear that Mr. Kelsey Fry is severing his connection with the Hospital entirely.

Yours, etc.,

T. B. JOHNSTON,
Dean.

Medical School,
Guy's Hospital,
London Bridge, S.E.1.

[We greatly regret this error on the part of our reporter—ED.]

Sport

Rugby

THE season of 1928–29 being completed, I have pleasure, as in past years, in enclosing chart and statistics of the 1st XV performances. It has been a disastrous season from a record point of view, the only bright spot being the return of the "Cup." With several of last season's stalwarts leaving, and the very bad luck experienced with injuries and illness, it has at times been very difficult to raise a representative team for some matches. It was pleasing to note great improvement in the general play towards the close of the season.

Of the programme of 30 matches arranged—not including Cup Ties—27 were played; 30 including Cup Ties. The following sporting fixtures were scratched, due to inclement weather—Aberavon, Old Alleynians and Old Blues. A notable fixture missing from the fixture card was Blackheath. Probably our best win was against Birkenhead Park at Birkenhead. It may be interesting to mention a few of the outstanding items obtained from the statistics given.

If the records given are correct, Clarke only missed playing in one game, viz., O.M.T.; the top try scorer was Robinson with 11 tries—Morgan, a *forward*, was next with 6—while Hogbin converted 20 of the 25 tries converted.

Our opponents only failed to cross our line on five occasions, and scored, roughly, 2 tries to our 1 per match on average. We scored exactly the same number of tries as last season *i.e.* 51.

The Welsh teams, with Bristol and Gloucester, on their own grounds, took 182 points from us in 6 matches, or nearly half the total number of points scored against us.

The average points per game were the same as last season's, *i.e.*, 7.3; our opponents' average, however, was nearly double, 13.46 against 7.54 for last season.

In conclusion, the captain and team in the Cup Final are to be heartily congratulated on playing such a fine and exciting game and restoring the Cup to Guy's.

The players who took part in the Final are "starred" in the statistics.

SEASON 1928–29

The following have taken part in 1st XV matches during the season:—

*Clarke (29), *Hogbin (27), *Popplewell, *Ryan (26), *Morgan, *Robinson (22), *Clogg, Lashmore (20), *H. B. Spence (18), Thomas (17), Batchelor, *Malone (16), *A. J. Lewis (15), *Windsor Lewis, Hutchinson (14), Smith (11), Myburgh, W. Lewis, Wilson (10), W. D. Jones, *Brown (9), *Eustace, Durr (8), *Kunovsky (7), *Fichardt, Ive (6), Witherow, D. P. Spence (5), Tregarthen, Howell, Kennedy, O'Shea, Rowlett, Peatfield (4), Sloane, Knight (3), Watson (2), Leslie, E. H. Jones, McClear, Johnson, Fry, Stubbs and Lomax (1).

The following have scored tries:—

Robinson (11), Morgan (6), Ive (5), H. B. Spence (4), A. J. Lewis, Popplewell, Hogbin (3), Ryan, Clarke, Lashmore, Thomas, Fichardt (2), Windsor Lewis, Malone, W. Lewis, Peatfield, Durr and Eustace (1) each.

The following have scored goals:—

	Tries Converted	*Dropped*	*Penalty*
Hogbin	20	—	3
Ryan	—	1	—
Myburgh	1	—	—
W. Lewis	—	1	—
Fichardt	1	—	—
Tregarthen	3	—	—

making a total of 51 tries—Tries Converted 25, Dropped Goals 2, Penalty Goals 3; Total Points 220.

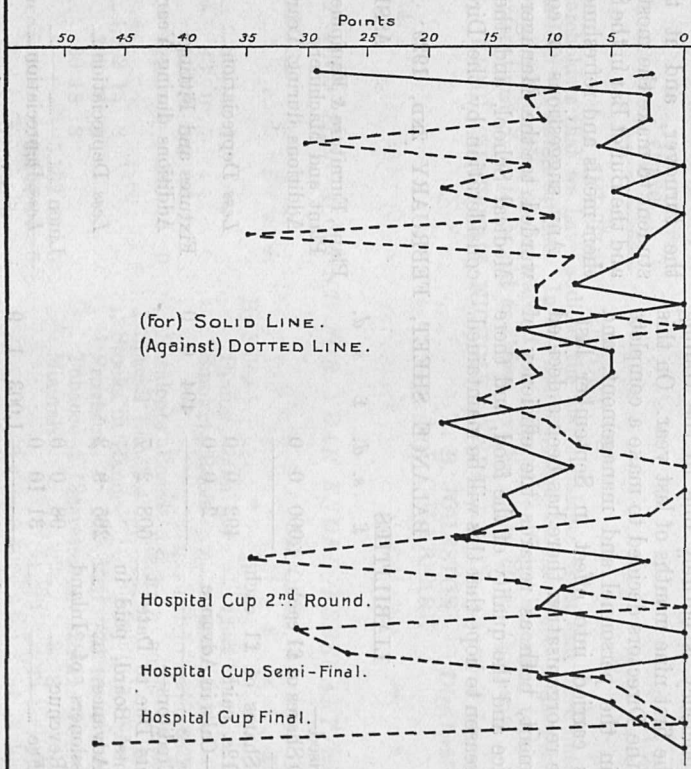
GUY'S HOSPITAL R.F.C.

SEASON 1928-29

(For) — **TOTAL POINTS** — 220. Average Points per Match 7·3

— Percentage — 38·3 %

(Against) — **TOTAL POINTS** — 404. Average Points per Match 13·46



OPPONENTS	DATE	G	F	A	Points For	Points Against	SCORE For G	SCORE For T	SCORE Against G	SCORE Against T	GOALS	TRIES
Catford Bridge	1928 Sept. 22	H	29	3	4	3	+1	-			Tregarthen 3, Hogbin 1.	Clarke 2, Spence 1, A.T. Lewis 1, Eustace 1, Morgan 1, Ryan 1.
Coventry	" 29	A	3	12	+1	-		+2		2	Hogbin 1.+	
Portsmouth Serv.	Oct 6	H	3	11	-	1		1		2		Morgan 1.
Gloucester	" 13	A	6	30	-	2		3		5		Durr 1, Hogbin 1.
Bristol	" 20	H	0	12	-	-		+1		3		
Harlequins	" 27	H	5	19	1	-		2		3	Lashmore 1.	Hogbin 1.
Northampton	Nov 3	H	0	10	-	-		1		2		
Cambridge Uv.	" 7	H	3	35	+1	-		+5		4	Hogbin 1.+	
Coventry	" 10	H	4	8	1	-		2		-	Ryan 1.	
Richmond	" 17	A	8	11	+2	-		1		2	Hogbin 1.+	Ive 1.
Cardiff	" 24	A	0	11	-	-		1		2		
Old Leysians	Dec 1	H	13	0	2	1		-		-	Myburgh 1, Hogbin 1.	Robinson 1, Ryan 1, Malone 1.
Portsmouth Serv.	" 19	A	5	13	1	-		2		1	Hogbin 1.	Ive 1.
London Scots.	" 22	A	5	11	1	-		1		2	Hogbin 1.	Peatfield 1.
Old Merchant T.	1929 Jan 5	A	8	16	1	1		2		2	Hogbin 1.	Ive 1.
U.C.S. Old Boys	" 12	H	19	10	2	3		2		-	Hogbin 2.	Robinson 2, Hogbin 1, Lashmore 1, Morgan 1.
Birkenhead Park	" 19	A	14	8	1	-		1		1	W. Lewis 1, Hogbin 2.	H. B. Spence 2.
R.N.C. Greenwich	" 23	H	8	0	1	1		-		-	Hogbin 1.	Robinson 1, W. Lewis 1,
Gloucester	" 26	H	14	0	1	3		-		-	Hogbin 1.	Robinson 3, Thomas 1.
Rosslyn Park	Feb 2	A	13	3	2	1		-		1	Hogbin 2.	Fichardt 2, Robinson 1.
Cambridge Uv.	" 6	A	18	18	3	1		3		1	Hogbin 3.	Popplewell 2, Robinson 1, H.B. Spence 1.
Aberavon	" 9	A	3	35	-	1		+5		4		A.J. Lewis 1.
Birkenhead Park	" 23	H	9	13	-	3		2		1		Thomas 1, Popplewell 1, Hogbin 1.
Middlesex Hosp.	" 25	N	11	0	1	2		-		-	Fichardt 1.	Morgan 2, Ive 1.
Bristol	Mar 2	A	0	31	-	-		+3		6		
Llanelly	" 9	A	0	27	-	-		3		4		
Kings College Hosp	" 14	N	11	6	1	2		+1		1	Hogbin 1.	Robinson 2, Win. Lewis 1.
London Irish	" 23	A	5	3	1	-		-		1	Hogbin 1.	Morgan 1.
London Hosp.	" 28	N	3	0	-	1		-		-		A.J. Lewis 1.
Newport	" 30	A	0	48	-	-		6		6		

PLAYED 30. WON 11. DRAWN 1. LOST 18.

+ Indicates Penalty Goal. ⊗ Indicates Drop Goal.

Our opponents' score was as follows :—

Tries 96, Tries Converted 40, Dropped Goals 3, Penalty Goals 8 ; Total Points 404.

Therefore, the complete figures are :—

Played 30, Won 11, Lost 18, Drawn 1 ; Total Points For 220, Total Points Against 404.

Average points per game (for), 7.3 ; average points per game (against), 13.46. Percentage 38.3 per cent.

Season	P.	W.	D.	L.	Points F.	Points A.	%
1923–24	27	13	3	11	285	151	53.4
1924–25	31	16	3	12	291	230	56.45
1925–26	29	14	3	12	235	234	53.5
1926–27	34	18	3	13	371	294	57.35
1927–28	26	12	3	11	190	206	52.0
1928–29	30	11	1	18	220	404	38.3

ROY C. HOLLOWAY.

Guy's Hospital College Catering Company, Limited

THE Company, which was formed in the early part of 1927 to take over the control and responsibility of the catering arrangements in the College, has now completed its second year of working, and the Balance Sheet as at February 2nd, 1929, together with the Profit and Loss Account for the past year, is appended below.

It will be seen that, financially, the undertaking has not met with the success that attended it during the previous year, and as a result there is a loss on the year's working of £278 8*s*.

This loss, set against the credit balance brought forward from last year of £171 5*s*. 3*d*., means that an adverse balance of £107 2*s*. 9*d*. is carried forward to the next account.

The deficiency is entirely due to the trading during the first nine months of last year. On this account the Directors decided to make a complete change in the personnel and management, and this was carried into effect in September last. Since the re-organisation there has been a decided improvement, both as regards the efficiency of the service and the quality of the food, and there is every reason to hope that this will be maintained.

The Company do not seek large profits, but simply wish to make the concern pay for itself. In this connection it is as well to mention that profits, if any, will be devoted primarily to benefitting students as a whole—*i.e.*, reduction of prices, increased quantities, greater variation of menus, etc.—and, secondly, to assisting the Students' Club and Clubs' Union in particular.

As will be readily appreciated, there are numerous difficulties to be surmounted in running a catering business of this kind of which the average individual has no knowledge, and these can only be overcome provided the Company has the co-operation of both Residents and Students.

The success of catering depends largely upon the turnover, and it therefore behoves every student to make the most use of the Dining Room and the Buffet Bar in the Smoking Room by having their meals and refreshments there when possible.

Any suggestions or complaints should be forwarded to the Manageress or Secretary of the Medical School, and they will always be given consideration by the Directors of the Company.

BALANCE SHEET, FEBRUARY 2ND, 1929

LIABILITIES	£	s.	d.	£	s.	d.
Capital—						
Authorised—						
1,000 Shares of £1 each	1,000	0	0			
Issued—						
820 Shares of £1 each, 12*s*. paid	492	0	0			
Add—Calls in Advance	2	0	0			
				494	0	0
Sundry Creditors—						
Accounts Due to Date	608	2	7			
Residents' Board, paid in Advance	265	9	2			
Commissioners of Inland Revenue	98	0	0			
Audit Fee	31	10	0			
				1,003	1	9
Carried forward				£1,497	1	9

ASSETS	£	s.	d.	£	s.	d.
Plant, Furniture & Equipment—						
Plant and Machinery	315	12	8			
Additions during Year	47	10	0			
	363	2	8			
Less Depreciation	72	12	4			
				290	10	4
Fixtures and Fittings	71	17	8			
Additions during Year	8	7	6			
	80	5	2			
Less Depreciation	16	1	0			
				64	4	2
Linen	41	19	9			
Less Depreciation	8	8	0			
				33	11	9
Carried forward				£388	6	3

	£	s.	d.	£	s.	d.
Brought forward				1,497	1	9
Students' Club, Wine Account				104	18	0
Reserve for Income Tax				18	4	0
Brought forward				388	6	3
Utensils			66 13 1			
Additions during Year			4 5 6			
			70 18 7			
Less Depreciation			13 6 0			
				57	12	7
China and Glass			128 9 4			
Less Depreciation			25 13 8			
				102	15	8
Cutlery and Plate			125 8 4			
Less Depreciation			25 1 8			
				100	6	8
Stocks—						
Provisions			76 16 4			
Minerals			8 8 0			
Tobacco and Cigarettes			28 11 2			
Stationery, Books, etc.			21 0 9			
Cheque Book			4 13 4			
				139	9	7
Sundry Debtors & Debit Balances—						
Special Lunches & Dinners			48 19 3			
Manageress's Float			15 0 0			
Uniform and Dress			3 4 6			
Deposit, Telephone Calls			3 10 0			
				70	13	9
Cash—						
At Bankers			605 6 0			
In Hand			8 1 6			
				613	7	6
Preliminary Expenses			81 6 4			
Less Amount Written Off			40 18 4			
				40	8	0
Profit and Loss Account—						
Loss for Year to Date			278 8 10			
Less Balance at Feb. 5th, 1928			171 5 1			
				107	3	9
			£1,620 3 9			£1,620 3 9

AUDITORS' REPORT

We report to the Shareholders that we have audited the above Balance Sheet and have obtained all the information and explanations we have required. In our opinion, such Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the Company's affairs, according to the best of our information and the explanations given to us and as shown by the Books of the Company.

KEMP, CHATTERIS, NICHOLS, SENDELL & Co., *Chartered Accountants.*

T. B. JOHNSTON } *Directors*
J. J. CONYBEARE }

36, Walbrook, London, E.C.4.
February 22nd, 1929.

TRADING AND PROFIT AND LOSS ACCOUNT FOR YEAR ENDED FEBRUARY 2nd, 1929

EXPENDITURE	£	s.	d.	£	s.	d.	INCOME	£	s.	d.	£	s.	d.
To Stock at Feb. 5th, 1928—							By Sales—						
Provisions	87	8	1				Dining Room	4,584	7	11			
Tobacco and Cigarettes	43	0	7				Smoking Room	1,639	1	10			
Minerals	10	8	4								6,223	9	9
				140	17	0	„ Residents' Board				1,628	5	0
„ Purchases—							„ Special Lunches				242	17	7
Provisions	4,902	15	8				„ Stocks in Hand—						
Tobacco & Cigarettes	369	3	1				Provisions	76	16	4			
Minerals	30	18	8				Tobacco & Cigarettes	28	11	2			
				5,302	17	5	Minerals	8	8	0			
„ Gross Profit Carried Down				2,764	13	5					113	15	6
				£8,208	7	10					£8,208	7	10

	£	s.	d.
To Salaries and Wages	1,974	10	9
,, Gas	250	12	2
,, Electricity	92	8	3
,, Insurance	21	18	6
,, Printing and Stationery	45	17	1
,, Laundry	48	13	2
,, Repairs	36	11	2
,, Renewals and Replacements	143	18	6
,, General Expenses	116	6	8
,, Audit Fee	31	10	0
,, Uniforms	15	13	0
,, Depreciation—			
Plant and Machinery	72 12 4		
Fixtures and Fittings	16 1 0		
Linen	8 8 0		
Utensils	13 6 0		
China and Glass	25 13 8		
Cutlery and Plate	25 1 8		
	161	2	8
,, Preliminary Expenses Written Off	40	18	4
,, Income Tax	87	6	0
	£3,067	6	3

	£	s.	d.
By Gross Profit Brought Down	2,764	13	5
,, Advertisement Fees—Menu Cards	24	4	0
,, Net Loss Carried to Balance Sheet	278	8	10
	£3,067	6	3

Hospital Information, etc.

Christian Union

THE first meeting of the term will be on Friday, May 3rd, at 4.30 p.m., and thereafter on Fridays from 5 to 6 p.m.

The devotional meetings held on Mondays from 1.25 to 1.55 p.m. will be continued as usual.

All members of the Hospital will be very welcome at these meetings.

The place is the Chaplain's Room, reached by going through the centre door of the right hand side of the Quadrangle—as one enters the Hospital—turning sharp left inside the door and going through the door at the end of the short corridor.

Pass List

(*Corrected List*)

L.D.S.
FINAL EXAMINATION
February, 1929
PART II

C. D. Malone
T. E. K. Uren
S. P. Ellis
O. M. H. Jones
R. Symmons
F. H. B. Spence
J. W. Woolley
L. W. G. Fisher
K. S. Morris
T. L. Vaisey

UNIVERSITY OF LONDON
B.D.S.
THIRD EXAMINATION—*PART I*
March, 1929

A. R. F. Thompson

Papers by Guy's Men

F. A. Knott, M.D., M.R.C.P., and W. L. Watt, M.D. Some Effects of Deep X-rays upon the Cells of the Blood, *Brit. Med. Jour.*, 1929, i, 542.

F. N. Doubleday, L.R.C.P., M.R.C.S., L.D.S. The Problem of Dental Infection, *Practitioner*, 1929, cxxii, 187.

C. Worster-Drought, M.D., and another. Post-Diphtheritic Hemiplegia, *Proc. Roy. Soc. Med.*, 1929, xxii, 640; *Sect. for Study of Dis. Childr.*, 46.

Leslie Witts, M.D. Eventration of the Diaphragm, *Proc. Roy. Soc. Med.*, *Ibid.*, 604; *Clin. Sect.*, 42.

C. Worster-Drought, M.D., and another. Juvenile Tabes Dorsalis with Negative Wassermann Reaction in Blood and Cerebrospinal Fluid, *Ibid.*, 607; *Ibid.*, 45.

Change of Address

R. P. Rowlands, F.R.C.S., 45, Wimpole Street, W.1. 'Phone: Welbeck 1144.

M. E. M. Jago, M.D.(Lond.), "Stanstead," Cheam Road, Sutton, Surrey.

Dr. Stanley Brook, 1, Lloyd's Avenue, E.3.C. 'Phone: Royal 0806.

R. G. Swiss, L.D.S., 2, Bucklersbury, Hitchin, Herts.

Appointments

R. G. Swiss, L.D.S.(Eng.), appointed Honorary Dental Surgeon to the North Herts and South Beds Hospital, Hitchin.

Ronald Jarman, D.S.C., M.R.C.S., L.R.C.P., Anæsthetist, Cancer Hospital.

Deaths

BRADNACK—On April 21st, 1929, at Barton-on-Humber, Lincs., Gerald Arthur Augustine Bradnack, M.R.C.S., L.R.C.P., aged 33 years.

DEAN—On April 18th, 1929, at his home at Kimbolton, Christopher Dean, M.C., B.A., M.B., B.Ch., M.R.C.S.(Eng.), L.R.C.P.(Lond.), late Assistant House Surgeon and House Physician, Guy's Hospital, aged 40 years.

EDS. { O. P. / E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLIII *18th May 1929* *Number 1065*

PASSIM

THAT strange thing, Summer, is at hand. Of this there can be no manner of doubt, for even if the inevitable cyclonic disguise should prove as effective as usual there are certain subtle yet unmistakeable signs that mark its presence. The inclusion, for instance, of a cold buffet in the College Menu can only have one meaning, while the appearance of the Park, aqueous yet pastoral, serves but to give the same impression. Moreover, the Nursing Staff, amazingly careless about the casting of clouts ere May be out, are taking the cape by the collar and discarding such protection until the appearance of an R in the month shall terminate the close season for crumpets. At the same time, the average male of the hospital species in his hurried adoption of flannel, from which he continues to secure a minimum of personal discomfort during a renewed allegiance to that stationary pastime known as cricket, would seem almost equally anxious to support this ridiculous convention of present warmth and approaching dessication. The whole business, in fact, seems to be bolstered up annually as an excuse for the laziness that is to precede the feverish activity of a holiday, or, at the most, is nothing more than a pleasant fiction designed to suggest thirst and cheerfully upheld by all except the unfortunate Editor, who can see in this colossal artefact merely a lean period without copy, a nightmare of cajolery and persuasion, and a disheartening indifference to his efforts that is apt to be colder than any Winter.

▭

WE learn that, in addition to the generous legacy of £100,000 to King Edward's Fund mentioned in our last issue, the will of the late Lord Revelstoke included an entirely separate bequest of £50,000 to Guy's Hospital, to be treated as capital and the income only applied for revenue purposes.

At the General Court of the Hospital, held on Monday, May 13th, the following resolution was unanimously passed :—

> "That the Governors hear with great regret of the death of their colleague, and desire to convey to his relatives their sincere sympathy and condolence in the great loss they have sustained. Further, the Court desires to record a high appreciation of Lord Revelstoke's benefactions to the Hospital, of his wise counsel and guidance in finance, and his practical and kindly interest in the welfare of the Nursing Staff, to whose comfort and well-being he has generously contributed. Lord Revelstoke's name will ever be held in affectionate and grateful remembrance."

We understand also that the Governors have decided to proceed at an early date with the establishment of a Revelstoke Memorial Library and Class Room in the Nurses' Home. It is well known that during his lifetime Lord Revelstoke took the keenest interest in the welfare of Guy's nurses, and more especially in the provisions made for their leisure hours at Honor Oak and elsewhere. We feel sure that there could be no more fitting manner of perpetuating his name than in the connection indicated by the Governor's decision.

▭

WE are asked to announce that the British Medical Association is awarding a prize of £25 for the best Essay on "Three Cases Illustrative of the Value of Ante-Natal Observation of Pregnant Women." This prize is open to final year medical students or medical practitioners of not more than one year's standing from Guy's, London, St. Bartholomew's and St. Thomas's Hospitals. Essays must be submitted for judgment not later than January 11th, 1930. Further details may be

obtained from the Medical School Office. This choice of subject is particularly interesting in view of the increasing importance attached to antenatal supervision, an importance not yet recognised, and one still unaccepted by those stern moralists who consider it opposed to the laws of Nature to supervise at all anything so physiological as pregnancy.

▭

We are informed that the Rugby Football Club Dinner will be held at the Hotel Cecil on Wednesday, May 29th, at 7 for 7.30 p.m. Tickets for this justifiably popular and successful function may be obtained for the modest sum of 10*s.* 6*d.* from the Medical School Office or from Messrs. A. R. Clarke, A. J. D. Lewis, C. D. Malone and T. G. Robinson at the Hospital. We have been particularly asked to emphasise the fact that attendance at this dinner is not limited to members of the Club, anyone and everyone being most welcome. Mr. F. J. Steward, the President of the Club, will be in the Chair.

▭

The Athletic Club have also solicited Editorial aid to bring before the notice of members of the Clubs' Union the near approach of the Sports, which are to be held on June 8th, and the great blank spaces that still greet the eye on the Entry List posted in the Colonnade. We would remind intending entrants not to delay their intentions much longer, as all entries must be in by May 26th. So we hope to see the lists filling with eager aspirants to Challenge Cups, Medals and, at worst exercise.

Obituary

CHRISTOPHER DEAN, M.C., M.D.(Oxon.)

THE announcement in the last number of the Gazette of the death of Christopher Dean at the early age of 40 was a shock to his friends, and caused them much sorrow. For the details of his life before he came to Guy's we have to thank Mrs. Dean.

He was born at Norwood in 1888. He was the son of a solicitor, and on his mother's side he was a descendant of Charles Wesley. His school was Charterhouse; from there he gained a scholarship which took him to Trinity College, Oxford, where he stayed four years and coxed the First Trinity boat in the Torpids for two years. After leaving Oxford he came to Guy's; he was Assistant House Surgeon and House Physician to me in 1915. Early in 1916 he went out to the No. 9 British Red Cross Hospital at Calais, where, in addition to ordinary medical duties, he acted as bacteriologist. In 1917 he went to Compiegne to study, under Dr. Carrel, the Carrel-Dakin treatment, which method he introduced in his hospital at Calais on his return to it. In 1918 he wrote an exhaustive and altogether admirable paper on *Cases of Injury to the Chest*, giving an account of his experiences in the war. This is a model of what a clinical medical paper should be and it secured admission to the *Quarterly Journal of Medicine*, Vol. XI. In this year he obtained his commission in the R.A.M.C. in spite of the fact that he was somewhat lame, owing to a congenital defect of one foot. He was attached to the 1st West Yorkshire Regiment, and in September he was awarded the Military Cross for "attending wounded under fire and for seeing personally that all casualties had been brought in."

After the Armistice he went with his regiment to Berlin and, on its demobilisation, he was sent to the 36th C.C.S. at Cologne. He was demobilised in 1920 with the rank of captain. For some months after this he was House Surgeon at the Newcastle Royal Infirmary. In 1921 he entered into partnership with Dr. Robinson of Kimbolton. The following year he married Margaret Gleave, who was for nearly four years a Sister at No. 9 British Red Cross Hospital. He always worked very hard at whatever he was doing, and, as anyone who knew him could have foretold, he threw himself wholly into the labours of a considerable country practice. Last year instead of taking a holiday he took a post-graduate course, and, as Kimbolton is within motoring distance of Cambridge, he joined the Medical Society there; he made time to do his own bacteriology. Some will say he worked too hard, but he had his reward, for he was loved by all his patients, for all of whom he took infinite pains. Early this year he had symptoms of coronary thrombosis; after two months' rest he had apparently recovered. He returned to work, but in a few days died an instantaneous death. The affection he inspired was shown by the very large number of people from far and wide who attended his funeral. The newspaper speaks of them as a host.

Christopher Dean was a remarkable man. He was able, he could think clearly and he was an honest, hard worker, but the qualities which endeared him to those who knew him were his selflessness, his charm and his modesty. Until his death no one in Kimbolton knew that he had won the M.C. It was a pleasure to be in his company, and somehow you felt better for it. The more you knew him the more your affection for him grew.

He leaves behind him a widow, two sons and a daughter.

W. HALE-WHITE.

GEORGE THOMPSON HENDERSON

GEORGE HENDERSON, who died on April 29th, 1929, was more often in the thoughts of Guy's men of the early post-war years than any other, not only in those of his more immediate friends, but also in the minds of all who had come in any way in contact with him.

While his friends and contemporaries left the Hospital and went ahead with their work, Henderson's life was standing still, and for five long years he fought cheerfully, uncomplainingly and unavailingly against the disease which arrested his career.

Even had it not been for his own personal charm, the mere tragedy of the fate which overtook him must have compelled the sympathy of all. Young, enthusiastic and popular, with a brilliant academic career behind him and every promise of a distinguished future before him and almost within his grasp, he contracted pulmonary tuberculosis, which kept him a prisoner in a sanatorium until his death.

No one could have worked harder to achieve success, and no one's success could have been more popular with his contemporaries, for his gifts were of the indisputable and unassuming kind which commanded immediate recognition without jealousy or cavil.

One of Henderson's most attractive qualities was his enthusiasm, and this he showed in everything which he did, whether in his work or in his play, and it was this, combined with his really exceptional ability, which indicated a distinguished future for him.

When illness overtook him he set himself the task of getting well with his customary determination and conscientiousness, and bore the constant rebuffs and disappointments with the utmost fortitude. None of his friends ever heard him either discuss his illness himself or utter a single complaint, and although for the last two years the eventual termination was obvious to himself as well as to his friends, he never in any way referred to it, and at the end he died as cheerfully as he had lived. His memory, though a tragic one, will never be forgotten by his friends.

Born in 1896, Henderson was educated at Dulwich. He went to France in 1915, and was early transferred to the Royal Air Force. After the Armistice he went to Caius College, and in due course obtained a Scholarship at Guy's. He qualified in 1923, and early in 1924, while Assistant House Surgeon, he had a hæmoptysis, which rendered him an invalid until his death.

E. R. B.

GERALD ARTHUR AUGUSTINE BRADNACK

TO those of us who knew Bradnack well at Guy's, his passing away at the early age of 33, after an apparently short illness, will not come as a very great shock, because we knew that he had congenital cystic kidneys, and that, unhappily, the chance of a long life was probably not to be his lot. I first met him on the roof of Hunt's House one night in September, 1916, where we had gone to watch an air-raid in progress at the time. He had then just come back to Guy's to do Surgical Ward Clerk after serving for a time as a Dresser in the I.M.S. Before taking the Final Conjoint in 1919, he spent six months as R.O. to Mr. Bellingham-Smith—a work for which he seemed to have a special aptitude. After qualifying he went abroad as a ship's surgeon for a time, and finally joined a large rural practice and settled down in Barton-on-Humber in 1921. He soon became very popular there and had many activities outside his practice; he was a very keen Mason, played an excellent game of tennis, and was an enthusiastic cricketer. In his work he was essentially a sound man, endowed with any amount of common sense, and one of his partners told me that they "always considered that Gerry was really the brains of the practice." In 1927 he married Dr. Nora Kirk, the sister of one of his partners. During the last 12 months or so he carried on his full share of a very busy practice against overwhelming odds, as he was beginning to feel pretty seedy from that time on, although he did not associate his symptoms with his old trouble, but it was not until nearly the end of March of this year that he simply had to give up work—as he hoped—for a time and come up to Guy's for inves igation. It was then found that his kidneys were failing rapidly, and it was obvious that he had not much longer to live. He eventually left Guy's and got home with some difficulty, and died on April 21st, 1929. I cannot end better than by quoting an appreciation of him from the *Hull Times* of April 27th: "The Barton Cricket Club has suffered an irretrievable loss in the untimely death of Dr. G. A. A. Bradnack. He was the Treasurer of the Club, and had been a prominent member for the past six seasons. . . . The doctor had the reputation of being a thorough sportsman, both off the field and on, and his death comes as a great shock to his many friends, not only in Barton, but all over North Lincolnshire."

Our sincere sympathies go out to his widow and to his parents in their great loss. R. P. B. L.

Diseases of the Liver and Spleen

An Introductory Lecture by Dr. L. J. Witts.

GENTLEMEN,—The liver, the spleen, the bone marrow and the lymph glands form a system which is linked together in function as closely as the alimentary system or the skeletal system. These tissues are especially concerned with the process of blood breakdown and repair, and they are usually involved together in disease. In this course of lectures I propose to consider the diseases of the liver and spleen, leaving the consideration of anæmia and the blood-forming organs for another year.

THE SPLEEN

The spleen is a blood gland. Its arteries, as you know, are end arteries, and I want you to think of them as branching and subdividing till each ends in a single splenic lobule. The essential unit in the spleen is the lobule, and in the human spleen there are, roughly, 500,000 lobules. The lobule is bounded by capsule and trabeculæ, which contain plain muscular fibres and are contractile. This framework is occupied by the pulp, which consists of reticulo-endothelial cells, united by their long protoplasmic processes to form a labyrinth of intercellular spaces through which the blood flows. These pulp cells are phagocytic. On entering the lobule the artery is enclosed by a sheath of lymphoid tissue—the Malpighian body. Passing through this it divides into capillaries, which flare out at their end and open directly into the pulp. The blood is poured from the vessels into the meshwork of the pulp. The intralobular veins of the spleen, as you will remember from text books of histology, have imperfect walls, and through these openings the blood re-enters the circulation. From this structure you can understand the functions attributed to the spleen.

(1) *A Reservoir*—

Large amounts of blood are held in the interstices of the pulp, from which they can be expelled into the general circulation in time of need by contraction of the muscular capsule and trabeculæ.

(2) *A Filter*—

The blood is brought into intimate contact with the phagocytic cells of the pulp. It is for this reason that the spleen is enlarged in septicæmia and other systemic infections.

(3) *A Blood-Forming Organ*—

Lymphocytes and large mononuclear cells are normally formed in the spleen. In anæmia other cells may be formed there, the pulp undergoing *myeloid metaplasia*.

THE LIVER

It is usual to describe the liver lobule as composed of columns of liver cells, which converge on a central hepatic vein, the portal areas being at the periphery. The columns of liver cells are separated by the liver capillaries along which blood from the portal vein and hepatic artery flows towards the central vein. These capillaries are lined by star-shaped endothelial cells, which were first described by Kupffer, and are actively phagocytic. With special methods of staining, the bile canaliculi can be demonstrated, beginning between the individual liver cells and passing along the centre of the column to open into the bile duct. In the pig this anatomical lobule is outlined by connective tissue. It is much more convenient, however, to regard the liver lobule as being grouped around the portal area, as this is the real functional unit. In the embryo the liver grows out as a bud from the intestine. The bile ducts branch and divide and the smallest ducts terminate in a number of acini or liver-cell columns, which are grouped around a portal area to form a liver lobule. This concept of the liver lobule has been figured diagrammatically by McNee.

The liver takes part in the metabolism of all the foodstuffs. It is probably responsible for the desamination of amino-acids and the formation of urea. It stores carbohydrate as glycogen, and hepls to maintain the normal level of sugar in the blood. Its role in fat metabolism is also important, if more obscure. Many efforts have been made to base tests of hepatic efficiency on these various functions, but with no very great success. The liver has an immense reserve capacity, and it is only in the agonal stages of disease that any gross disturbance of metabolism occurs. The tolerance for lævulose is probably the most satisfactory of these tests. In health, lævulose is very rapidly converted into glycogen in the liver, so that but little elevation of blood sugar occurs after its ingestion. If the blood sugar rises more than 30 mg. per cent. after 50 grammes of lævulose by mouth, or if the rise in blood sugar lasts longer than two hours, it may be assumed that the liver is diseased.

Another important function of the liver is the excretion of bile—bile pigments, bile salts and cholesterol. I shall speak of disturbance of pigment excretion when we discuss jaundice. But when the outflow of bile is obstructed the bile salts also are retained and their concentration in the blood is increased; fats are poorly absorbed from the intestine and the fine droplets of fat—hæmaconia—

which normally appear in the blood after a fatty meal are absent. The blood cholesterol is increased in obstructive jaundice, but this affords no assistance in diagnosis. Substances foreign to the organism, such as bacteria and many chemical compounds, are likewise excreted in the bile. The dye phenoltetrachlorphenolphthalein is believed to be excreted entirely by the liver. In Rosenthal's test it is injected intravenously in a dose of 5 mg. per kilo; in health only about 5 per cent. remains in the blood-stream after 15 minutes, but excretion is delayed when the liver is diseased. Graham realised that the excretion of substances in the bile might be used for the visualisation of the biliary tract with the X-ray. For this purpose he introduced tetraiodophenolphthalein, which gives a fairly dense shadow in the gall bladder and enables us to study the filling of this viscus and detect the presence of stones.

JAUNDICE

The liver excretes bile pigment, but it has only a small share in its manufacture. The red cells as they age undergo fragmentation—they are, in fact, "threshed to pieces" in the circulation. The fragments are taken up by the macrophages throughout the body, especially the endothelial cells of the bone-marrow, the cells of the splenic pulp and the Kupffer cells in the liver. The hæmoglobin is converted into the iron-free pigment bilirubin. An accumulation of bile pigment in the blood is known as jaundice. If it is sufficient to cause staining of the tissues we speak of *overt* jaundice; if insufficient, the jaundice is *latent*. Bilirubin is taken out of the blood by the liver cells and excreted in the bile. Van den Bergh has shown that bilirubin is changed in its passage through the liver, becoming more diffusible and chemically active. Bilirubin which has passed through the liver gives an *immediate direct reaction* with the diazo reagents; bilirubin which has not passed through the liver may give a *delayed direct reaction*, or it may only strike a colour with the reagents after extraction of the serum with alcohol, the *indirect reaction*. Thus, Van den Bergh's reaction not only enables us to detect a latent jaundice, but it may also show whether the jaundice is obstructive or non-obstructive.

In the intestine bilirubin undergoes bacterial decomposition and is converted into stercobilin, the pigment of the fæces. The amount of stercobilin excreted in the fæces is a measure of the output of bile and, to a certain extent, of the rate at which blood is being broken down in the body. Some stercobilin is absorbed by the blood vessels of the gut, but in health it is promptly re-excreted by the liver. Only a trace of stercobilin escapes into the urine—in the urine it is called urobilin, but this is only stercobilin under another name—and the fasting urine should contain none at all. But if the output of pigment is greatly increased, as in hæmolytic jaundice, where blood destruction is much accelerated, or if the liver is diseased, the liver is unable to re-excrete all the stercobilin absorbed from the bowel, and large amounts of urobilin appear in the urine. You will also see that in obstructive jaundice, where the bile is prevented from passing into the intestine, no stercobilin can be formed in the bowel, and urobilin must be absent from the urine. There is a snag in most things in medicine, however, and there is one here. For sometimes in obstructive jaundice the bile passages are infected and stercobilin—urobilin—may arise from bacterial decomposition there.

If you look again at our diagram of the liver lobule you will see that there are three different ways in which jaundice may arise:—

(1) Such an excessive amount of blood is broken down in the body that the liver cells are unable to excrete the bilirubin as rapidly as it is formed and the pigment accumulates in the blood—*Hæmolytic Jaundice.*

(2) The liver cells are so damaged by disease that they lose the power of taking the bilirubin out of the blood—*Toxic and Infective Jaundice.*

(3) The liver cells excrete the bilirubin into the bile passages, but the bile ducts are obstructed and the bile is dammed back into the blood-stream—*Obstructive Jaundice.*

I can give only a few examples of the different types of jaundice. Some will be considered more fully later on. Instances of hæmolytic jaundice are acholuric familial jaundice, pernicious anæmia—in which jaundice is usually latent—the physiological jaundice of the newly-born and the grave familial jaundice of infants. Perhaps the most important examples of toxic jaundice are acute yellow atrophy of the liver and poisoning by salvarsan and atophan—the last has recently become quite frequent. The jaundice of chronic passive venous congestion of the liver also seems to come under this heading. Jaundice may complicate many infections, such as enteric fever, dysentery and secondary syphilis, and it is the main feature of Winckel's infective jaundice of infants, Weil's disease and yellow fever. Causes of obstructive jaundice are stone or parasite blocking the lumen of the duct, simple and malignant stricture of the wall and pressure from without by growths, adhesions and fibrosis of the head of the pancreas.

When you are faced with a case of jaundice you should first ask yourself: "Is the jaundice obstructive or non-obstructive?"

(1) *Fæces*—In obstructive jaundice the fæces contain no pigment; in hæmolytic jaundice pigment is usually increased; in toxic-infective jaundice some pigment is usually present, though occasionally bile formation is suppressed.
(2) *Urine*—In obstructive jaundice the urine contains bile pigment, but no urobilin; in non-obstructive jaundice urobilin is present and bile pigment does not appear unless the jaundice is deep.
(3) *Blood*—The Van den Bergh reaction.
(4) Certain minor points which are less reliable: A dark green colour of the skin is rare, apart from obstruction, and itching of the skin and slowing of the pulse are more common in obstruction.

If you decide that the jaundice is obstructive you must then ask yourself: "Is the obstruction simple or malignant?"

(1) Age of the patient.
(2) A history of colic points to stone, but impaction may occur without pain; cancer is often the sequel to stone and pseudo-colic is common in malignant disease. Indeed, a really painless jaundice is more often due to chronic pancreatitis.
(3) Jaundice lasting for months is not likely to be malignant.
(4) Progressive jaundice points to malignant disease, intermittence to stone or pancreatitis.
(5) Minor rigors—shivers—and fever, especially of the type of Charcot's bilious remittent fever with a "steeple" temperature chart, suggest stone.
(6) *Courvoisier's Law*—If the gall bladder is enlarged the obstruction is malignant, for in obstruction due to gall stones the gall bladder is chronically inflamed and contracted, but remember the possibility of pancreatitis.

Physiological Society Dinner

THAT one-time annual orgy, the Physiological Society Dinner, presided over by Professor Pembrey, was revived on Tuesday, May 7th, last, after a lapse of 15 years. The site chosen was the College Smoking Room, as it affords the greatest scope for revelry with the comparative privacy so necessary to all functions of this Society.

At 7 o'clock, 67 members descended to the "Spit," and these applauded the arrival of Professor Pembrey, a picture of sartorial elegance. We were also favoured by the presence of Dr. Poulton, Dr. Campbell, Dr. Warner and Mr. Spurrell. The dinner, which was provided by the College Catering Company, and supplemented by Professor Pembrey's "unknown," proved excellent.

Professor Pembrey, in his after-dinner speech, remarked, with ill-concealed glee, that on viewing the assembly it was apparent that reversion to type did actually take place; a point of considerable interest in view of the fact, which was afterwards emphasised, that the Society could be considered as his "spiritual offspring." Mr. Spurrell then amused us with a selection of the diagnoses of the unknown, which displayed the psychology of the assembly in a striking manner. None, however, approximated to the truth, which was revealed to be smoked reindeer's tongue.

Entertainment was then provided by a number of diners in the form of songs to the accompaniment, we were told, of a piano. We have no doubt that we should have found these songs excellent, could they have been heard above the melodious efforts of members in other parts of the room. We had impressed upon us the fact that "the farmer's a comical fellow" by a topical, though technical, version of a song describing the sounds emitted by the physiological pigs of Haywards Heath. The chief entertainment of the evening was nevertheless C_2H_5OH, which went down very well with everyone, with the result that though most knew individually what they were singing, those who were capable of listening were left in some doubt as to which song was predominant.

Dr. Campbell rose to proclaim himself guiltless, despite Professor Pembrey's assertions, of having participated in any previous revel of the Society; these revels were later stated to have been, on several occasions, of a highly unphysiological nature.

To our sorrow, the Professor and his colleagues found it necessary to leave us shortly after 10 o'clock, and after a short period of vocal distress the company dispersed—some at least to regain their domiciles as best they could, others to continue their revelries far into the night.

RANA.

Current Cases

II—Two Cases of Anthrax

CASE I

G—— C——, aged 15, is a skin-trimmer, and bits frequently fly up into his eyes.

On April 15th, 1929, a small pink spot was noticed on his right lower eyelid.

April 16th, 1929—

Attended Out-Patients with œdema of the lower lid. There was no spot or conjunctivitis.

April 17th, 1929—

10 a.m.—Œdema spread to upper lid. Slight œdema of conjunctiva. Bacteriological examination of swab from conjunctiva and puncture of lower lid showed no anthrax bacilli.

7 p.m.—Œdema spread above orbit, backwards to ear and downwards to mandible. Œdema soft and fluctuating, except lower lid, which was indurated. Still no pustule present. Temperature 100.8°.

11 p.m.—More œdema. Indurated area more extensive.

Schlavo's anti-anthrax serum given—20 c.c. intramuscularly, 10 c.c. intravenously, and 4 c.c. subcutaneously—around the lid.

A smear from the conjunctiva showed many anthrax bacilli.

Fig. 1

April 18th, 1929—

Œdema more extensive, stretching from occiput behind down to second rib in front. Face as in first photograph.

Temperature rose to 103.8°, pulse to 120. Anthrax bacilli in films and cultures from conjunctiva and vesicles. Blood culture negative. 30 c.c. of anti-anthrax serum given intramuscularly; .45 gr. N.A.B. given intravenously.

Fig. 2

April 19th, 1929—

Very slight increase in œdema. Temperature 102°, pulse 120. 50 c.c. of anti-anthrax serum given intramuscularly; .9 gr. N.A.B. given intravenously.

April 20th, 1929—

Patient feels better. Œdema less. Temperature 100°, pulse 100. 30 c.c. of anti-anthrax serum given intramuscularly.

April 21st, 1929—

Temperature 99.8°, pulse 80. 30 c.c. of anti-anthrax serum given intramuscularly.

April 25th, 1929—

Condition steadily improved. Patch of gangrene 1 inch square on lower lid, as in second photograph, but lid margin intact.

No anthrax bacilli in smears and cultures from conjunctiva.

May 12th, 1929—

Patient now convalescent. Gangrenous patch has separated superficially, but is still attached at its base. It is over ½ inch deep. He can now see perfectly well with this eye.

I am indebted to Mr. Eason for permission to publish this case.

R. L. H.

CASE II

J—— M——, aged 41 years, a leather warehouseman, who was employed in cleaning skins, came up to the Surgery on April 12th, 1929, complaining of a swollen face and general malaise. The swelling had begun on the side of the jaw two days before and had been accompanied by various vague pains, which led the patient to think he had influenza. The night before he came to the Hospital, however, he noticed a small red spot over the angle of the right mandible. He had no recollection of having scratched himself. On examination in the Surgery a pustule, exuding serum, was found in the centre of the red spot, and a smear taken from it showed on direct examination many anthrax bacilli. Cultures also gave a growth of b. anthracis.

The man was admitted immediately and given .6 grms. N.A.B. His temperature was 100.5°. The following day blood cultures in agar plates and broth gave growths of b. anthracis; 50 c.cs. of anti-anthrax serum were given and, later in the day, another .6 grms. N.A.B. The temperature fell from 102° to 100°.

The swelling had now considerably increased and extended from the cheek down the neck and over the chest wall, giving the patient a grotesque appearance. He complained of a dry throat and a cough and had œdema of his tonsillar region and pharynx. An ice pack was applied to the side of the face.

On the 14th the swelling remained about the same and the temperature fell to normal. to rise again to 100.8° after an intravenous injection of 20 c.cs. of serum.

The next day the temperature, normal in the morning, rose to 100° in the afternoon, when N.A.B., .45 grms., were given and, later, another 20 c.cs. of serum. The swelling had now become more brawny and the eschar was larger and had a black, necrotic centre about half an inch across. The spleen was not enlarged and the general condition of the patient was moderately good. Hot fomentations were applied to the face.

During the next five days 20 c.cs. of serum were given each day and the temperature gradually fell to normal, with steady improvement in the patient's general condition. The swelling decreased and a blood culture done on the 17th was negative.

The patient then had a mild attack of serum sickness, with various rashes, joint pains, nausea and diarrhœa, after which he made an uninterrupted recovery. The skin around the eschar began to peel and a smear and culture taken on the 27th showed no anthrax bacilli.

The case is of interest in view of the rapid recovery the man made after having had a positive blood culture.

I am indebted to Dr. Marshall for permission to publish this case.

E. R. M.

Nursing News

THE Annual Dinner and Meeting of the Guy's Hospital Nurses' League was held on Friday last, May 10th, at 7 p.m., in the Nurses' Home. The gathering was a record one, over 330 members sitting down to dinner, which this year was held in the Dining Room and Sitting Room, the former alone being too small to accommodate all those who applied for tickets. After dinner a crowded meeting was held in the Gymnasium of the Massage School, where coffee was served later, and the time seemed all too short for the abundance of gossip and reminiscences to be exchanged. The function was honoured by the presence of Sir Cosmo and Lady Bonsor, the Hon. Mrs. Molyneux, Mr. and Mrs. Eason, Mrs. Fawcett, Miss Hogg, Mrs. Redding and Dame Sarah Swift, O.B.E., who took the Chair.

After the Chairman's address of welcome, Sir Cosmo Bonsor spoke on the past history of the League and the building of the Henriette Raphael Nurses' Home in 1902. His speech was received with vociferous applause, all members recognising and fully appreciating his unfailing generosity and interest in all that pertains to the welfare of Guy's nurses. He was hailed as their true friend.

The Annual Report of the League was read by Miss MacManus, the Hon. Secretary, and several suggestions of interest followed.

A special appeal was made for financial support from Past Members for the building and equipment of a large Lecture Hall, Library and Reading Room, with a practical Classroom attached to make a worthy teaching unit for present nurses. A site at the back of the Nurses' Home has been con-

Is it the same Bug?

sidered, and a sum of about £2,500 is required. Already some subscriptions have come in, and it is hoped that if the money is forthcoming a start with the building may be made in the near future. Guy's nurses are really very badly off in comparison with other leading hospitals as regards equipment and space for teaching purposes.

The Secretary spoke of the tragic death of Lord Revelstoke, one of the League's most generous friends. It was due to his generosity that the second hard tennis court was laid down at Honor Oak Park. He also joined with Sir Cosmo Bonsor in defraying the cost of enlarging the Cottage in 1920 to commemorate the work done by Guy's nurses during the European War, and he contributed to the cost of laying out the extension of the Cottage garden last year. It was resolved that a letter be sent to the Hon. Cecil Baring (Lord Revelstoke) from Past and Present Guy's Nurses expressing their deep appreciation of all that the late Lord Revelstoke did for their welfare during his lifetime.

The death of Miss Ella Bonsor, an Honorary Member of the Nurses' League and a generous subscriber to the funds, was also recorded with great regret.

Other Past and Present Members who have died during the year are: Miss Jameson (Sister Lydia, entered Guy's in 1919), Miss Jane Jackson (1912), Miss G. Abram (1915), Miss Lucy Haydon (1896), Miss Dorothy Woollett (1911), Miss Doris Hindle (1918), Miss Florence R. Browne (1908), and three present Nurses, who died during the influenza epidemic this year—Miss E. M. Bishop, Miss Beryl Peile and Miss Olive Blair.

It was suggested, and the motion was carried, that a Nurses' League Branch of the Guy's Hospital Ladies' Association be formed. All past Nurses are invited to join and pay the yearly subscription of 2*s.* 6*d.* and contribute at least two garments yearly. Further particulars may be obtained from Miss Venning, The Corner House, Tadworth, Surrey.

A League Garden Party is to be held at the Cottage at Honor Oak Park on June 12th. There will be no other invitations issued, but the event will be advertised in the Nursing Press, and it is hoped that many League Members will write their acceptance to Miss MacManus. Sir Cosmo Bonsor has very generously promised to provide charabancs to convey all members from the Hospital to the Cottage and back that day.

The Financial Statement was read, and revealed a satisfactory balance in hand of £129 4*s.* 2*d.*

At the end of the meeting Dame Sarah Swift presented prizes to the successful nurses in the year's examinations, also prizes to the successful competitors in the Exhibition of Needlework and Photography in the Nurses' Home, which is always an attractive feature of the Annual Meeting.

MEDALS AND PRIZES FOR THE YEAR 1928

The Butterworth Medal

The Butterworth Medal, instituted by Joshua W. Butterworth in 1889, is awarded to all Nurses of Guy's Hospital who shall have completed 5 years' continuous satisfactory service at the said Hospital.

Sister Annie Crump.
Sister Phyllis E. Bird.
Sister Dorothy Bricknell.
Sister Elizabeth M. Harrison.
Sister Norah C. Holroyde.
Sister Eileen D. Johnston.
Sister Antoinette Monsell.
Staff Nurse Hilda Bowker.
Staff Nurse Ethel M. Croxall.
Staff Nurse Evelyn M. Grannum.
Staff Nurse Gwenith M. Lewis.
Staff Nurse Irene M. Sendles.

The Cazenove Medal

The Cazenove Gold Medal is awarded to the Nurse who shall have obtained the highest aggregate percentage of marks in all the Examinations held during 1927 and 1928.

Nurse Constance M. Faulks.

The Keogh Prize

The Keogh Prize, consisting of Surgical Instruments, is awarded to the Nurse obtaining the highest number of marks in the Surgical Examination.

Nurse L. Gough.

The Morrison Prizes

The Morrison Prizes, Medical Books, are awarded to the Nurses obtaining the highest number of marks in the Examinations in Medicine and Nursing subjects.

Nurse J. D. Litten, Examination in Nursing, March, 1928.
Nurse G. B. Smith, Examination in Nursing, December, 1928.
Nurse M. E. Lloyd, Examination in Medicine,

Bernard Loftus Brown Prizes

The Bernard Loftus Brown Prizes, presented by Mr. and Mrs. A. Loftus Brown, in memory of their son, are awarded to the Nurses gaining the highest number of marks in each of the Final Practical Nursing Examinations held during theyear.

April—Nurse E. M. Wallis.
October—Nurse E. A. Donaghy.

The Governors' Prizes

The Governors' Prizes, Medical Books, are awarded to Probationers obtaining the highest

number of marks in the two Junior Examinations held during the year.

August, 1928—Nurse V. Pitt.
February, 1929—Nurse E. M. Angier.

RESULT OF BALLOT FOR MEMBERS OF COUNCIL FOR THE ENSUING YEAR

Three Hon. Members of Council—
The Hon. Mrs. Molyneux.
Mrs. C. H. Fagge.
Mrs. Steward.

Choral and Dramatic—
Sister Surgery (Miss Matthews).
Sister Dorcas (Miss Lloyd), Deputy.
Sister W. Johnson, Orchestra.
Nurse M. E. Lloyd.

Swimming—
Sister Bermondsey (Miss Burton), re-elected.
Nurse V. Barnes, re-elected.

Garden—
Sister Agnes (Miss West).
Staff Nurse M. L. Hall, Deputy.
Nurse N. Jones.

Tennis—
Sister Winifred (Miss Johnson), re-elected.
Staff Nurse V. Johnson, re-elected.

Needlework—
Sister Rosalie (Miss Dreyer), re-elected.
Nurse Bullock, re-elected.

Library—
Sister May (Miss Cawthorne).
Nurse Barford.

Photographic—
Sister Theatres (Miss Bricknell), re-elected.
Nurse Merson, re-elected.

Debating—
Sister Dorothy (Miss Holland), re-elected.
Nurse I. G. Barratt.

Cricket

THIS match was played at Catford Bridge on Saturday, May 4th, and resulted in a drawn game.

Guy's won the toss and batted first, R. J. Eustace and S. R. Peatfield opening the innings.

We started badly, 3 wickets falling with only 18 runs on the board. J. A. G. Starnes and G. J. Clarke, however, brought the score up to 49 before the latter was caught off Robertson. Starnes batted steadily for his 67 and, together with D. J. Rees, made a valuable stand.

Guy's were all out for a total of 150, and our opponent's replied with 133 for 8.

Guy's fielding was very keen, and in this respect particular mention must be made of R. J. Eustace.

Scores—Guy's, 150 ; Private Banks, 133 for 8.

Guy's	
R. J. Eustace, c. Murch, b. McMillan	2
S. R. Peatfield, c. Pearce, b. Bryan	8
H. Cameron, b. McMillan	1
J. A. G. Starnes, c. & b. Bryan	67
G. J. Clarke, c. Murch, b. Robertson	10
J. Durr, b. Robertson	0
D. J. Rees, b. Black	22
A. J. D. Lewis, b. McMillan	9
E. V. B. Widdowson, b. McMillan	0
R. Outfin, c. Howard, b. Bryan	13
J. P. O'Shea, not out	3
Extras	15
Total	150

Bowling—J. Durr 2 for 21, D. J. Rees 3 for 38, J. P. O'Shea 1 for 20, H. Cameron 1 for 19, R. J. Eustace 1 for 14.

THIS match was played at Honor Oak Park on Wednesday, May 8th, and resulted in a win for the Hospital after an exciting finish.

Our opponents won the toss and batted first. It appeared difficult to obtain runs, and after an innings that lasted for 2 hours 45 minutes they were all out for 94, of which total T. J. Wheeler scored 35.

R. J. Eustace and S. R. Peatfield opened the innings for Guy's, but the partnership was soon broken when the latter was caught by Wheeler before scoring. J. A. G. Starnes was unable to remain at the wicket for any length of time and the second wicket fell at 17. G. J. Clarke and R. J. Eustace now made a useful stand and brought the score up to 32 before the fall of the next wicket. Guy's were all out for 109, thus winning the match by 15 runs.

Scores—Guy's, 109 ; Wanderers, 94.

Guy's	
R. J. Eustace, c. & b. Goundry	16
S. R. Peatfield, c. Wheeler, b. Goundry	0
J. A. G. Starnes, c. Pailthorde, b. Soole	4
G. J. Clarke, c. Parker, b. Wheeler	26
L. E. Marshall, c. Parker, b. Soole	7
D. J. Rees, c. & b. Goundry	10
J. Durr, c. Goundry, b. Soole	15
A. J. D. Lewis, b. Wheeler	0
R. Outfin, b. Parker	13
J. P. O'Shea, c. Goundry, b. Parker	15
E. V. B. Widdowson, not out	0
Extras	3
Total	109

Bowling—O'Shea 7 for 31, J. Durr 3 for 39.

Anaphylaxis

The Treasurer's Prize Essay for 1928. Read before the Physical Society. By J. J. Chamberlain

Continued.

IF we accept the cellular theory of anaphylaxis, we still have to inquire why the interaction of antigen and antibody in the cells should produce a complex of symptoms closely similar to those produced in a common type of toxic reaction. In other words, what is the precise nature of the anaphylactic reaction? Here, as Dale states, we are venturing into the realms of speculation, and the two alternative theories which have been advanced have no experimental basis.

1. THE PROTEOLYTIC THEORY

This theory presupposes that the interaction between antigen and antibody in the cells does result in some form of protein cleavage. The idea that the toxic substance is produced in immediate contact with the reacting structures fits in very well with our knowledge of the immediate onset of symptoms and of the reaction of isolated sensitised plain muscle. That protein cleavage does take place on the injection of antigen into a sensitised animal is indicated by the observation of the additional excess of nitrogen excreted in the urine, much in excess of that which could have been derived from the amount of the injected antigen, but the excretion is greater in the immune animal which shows no anaphylactic symptoms. Dale indicated the similarity of the anaphylactic reaction and that produced by the injection of histamine into an animal and suggests that if the antigen anti-body reaction in anaphylaxis does cause the formation of protein cleavage products similar to histamine, the results might be the same that we see in anaphylactic shock.

2. THE PHYSICAL THEORY

This theory, in terms that are somewhat vague, suggests that the interaction between antigen and antibody in the anaphylactic cell brings about a change "in the state of dispersion of the protoplasmic colloids." Some observers have compared the reaction with that of an active chemical substance on a special type of cell, making use of the term "receptive substance" for an intercellular substance having an affinity for the particular chemical substance concerned. If, in the particular case under consideration, we take as our receptive substance precipitin, and as the active chemical substance a dilution of the antigenic protein, we can well imagine that the reaction between them *in vivo* would produce a disturbance of the aggregation of the protoplasmic colloids, for if the experiment be performed *in vitrio* such a change is produced, as evinced by the formation of a flocculent precipitate. However, to justify our analogy we have to suppose that precipitin is contained within the cell.

Further, it is suggested by Dale that such a change might bring about a fermentative reaction, leading to the formation of histamine or a like substance. But of the precise action of histamine, and why it should cause plain muscle to contract and capillaries to dilate, we have no knowledge.

Such are the theories advanced as suggestive explanations of the precise nature of the anaphylactic reaction, and they lead us only to hope for more fruitful investigations in the future.

If, now, for a few minutes we consider the subject from a somewhat broader point of view, we see that there is little reason for doubting that anaphylaxis is a phase in the production of immunity, and that as such is a means of defence against the incorporation into the body of proteins alien to the characteristic proteins of the species. But the specialised proteins which evoke the defensive mechanism in anaphylaxis are located in the cells of vital organs, and frequently the animal dies in defence of its type. The method of producing the reaction is, however, artificial, for the sudden introduction of foreign proteins into the general circulation—by the use of a needle, for instance—cannot be classed as a natural event. Nevertheless, local anaphylactic reactions do defend the organism at the expense of the local tissues.

THE EXPERIMENTAL AND PRACTICAL APPLICATION OF THE SPECIFICITY OF THE ANAPHYLACTIC REACTION

The anaphylactic reaction is extremely specific and will discriminate between foreign proteins, indistinguishable by ordinary chemical and physical tests. Proteins, which on analysis are shown to contain the same proportion of identical amino-acids, are differentiated by the anaphylactic reaction. Dale suggests that the reaction has a much finer mechainsm than a mere electrochemical reaction, and the recent work of Dakin and Dudley suggests that the reaction distinguishes between proteins on account of differentiation in molecular structure. These observers have found that when proteins are racemised as far as possible by warming with alkali, and then hydrolised, some amino-acids undergo complete racemisation while

others retain to some degree their original optical activity. They found that the amino-acids escaping racemisation were those occupying terminal positions in the peptide chains. The fact that proteins, which appear identical and racemise differently, have different antigenic properties was conclusively proved by the work of Dale and Dakin, who used the crystallised albumins from the eggs of the domestic fowl and the duck. The two pure proteins are indistinguishable; they have the same physical properties and contain the same amino-acids in identical proportions. There is, however, a small but definite difference in racemisation, as indicated in the following table :—

STATE OF OPTICAL ACTIVITY

Amino-Acid	*"Racemised" Hen Albumin*	*"Racemised" Duck Albumin*	*Comments*
Alanine	Not racemised	Not racemised	No difference
Valine	Partly racemised	Partly racemised	No difference
Leuchine	Mostly racemised	Mostly active	A definite difference
Proline	Mostly racemised	Mostly racemised	No difference
Phenylalanine	Completely inactive	Completely inactive	No difference
Tyrosine	Inactive	Inactive	No difference
Aspartic Acid	Mostly inactive, some active	Completely inactive	Definite difference
Glutamic Acid	Completely inactive	Completely inactive	No difference
Histadine	Completely inactive	Mostly active	Definite difference
Arginine	Active	Active	No difference
Lysine	Inactive	Inactive	No difference

The behaviour of these proteins as anaphylactic antigens is graphically illustrated in the following figures :—

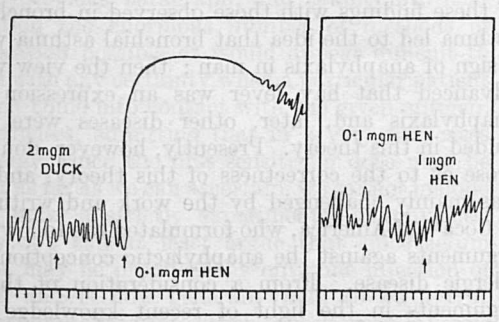


FIG. 7
Uterus from guinea-pig sensitised by 1 mgrm. of egg albumin, 21st day. Ringer's solution changed at the break in the record. Volume of bath=70 c.c.—(*from Biochem. Jour.*, vol. 13, p. 253, 1919).

The relation between antibody and antigen which causes the antibody to form a complex with only one certain protein of a definite molecular pattern is little understood. The analogy of enzyme and substrate as at present understood appears too gross to account for such a delicate

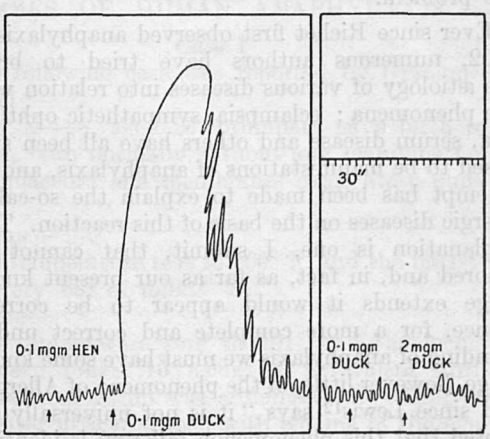


FIG. 8
Uterine muscle from guinea-pig sensitised by 1 mgrm. of duck egg albumin, 28th day—(*from Biochem. Jour.*, vol. 13, p. 254, 1919).

mechanism. It is interesting and perhaps amusing to note that Besredka records that the anaphylactic reaction has enabled us to ascertain the human or animal nature of mummies many thousands of years old when the precipitin and fixation of complement reactions have proved ineffectual. The reaction has also been employed with success in the examination of the products of secretion and excretion—such as milk, hæmoglobin, gastric juice, sweat and various oils. Schern has also used the reaction to discover adulteration of earth nut oil cakes with rice grains, field mustard, etc. It is also recorded that Leclercq has utilised the reaction to differentiate between the various kinds of meat contained in different grades of sausages.

To return, however, to our problem. Thus far I have attempted to indicate the knowledge we possess, gained from experimental work in the laboratory, of the nature of anaphylactic shock, and were I now able to put before you a concrete

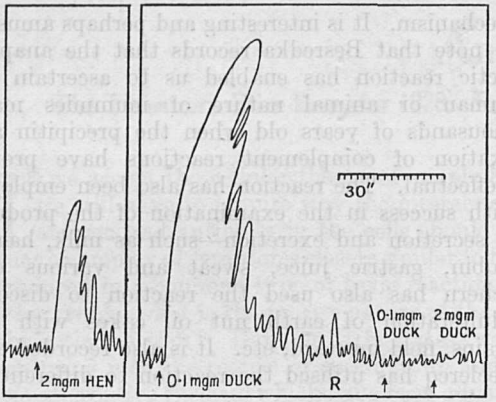


FIG. 9
Second horn of uterus from same guinea-pig as Fig. 8 —(*from Biochem. Jour.*, vol. 13, p. 255, 1919).

watertight definition of the condition, placing it as it were in a compartment by itself and isolating it from other phenomena—one that could as justly and strictly be applied to the conditions we meet with in man, as to these experimental observations—then, indeed, my review might be considered at an end, but that, alas, is not possible for, as has been observed before, anaphylaxis is a happy and comprehensive term which has been bandied about from one misunderstood condition to another, and therefore I must proceed in my attempt to place before you the clinical side of the problem.

Ever since Richet first observed anaphylaxis in 1902, numerous authors have tried to bring the ætiology of various diseases into relation with the phenomena ; eclampsia, sympathetic ophthalmia, serum disease and others have all been supposed to be manifestations of anaphylaxis, and an attempt has been made to explain the so-called allergic diseases on the basis of this reaction. This explanation is one, I submit, that cannot be ignored and, in fact, as far as our present knowledge extends it would appear to be correct. Hence, for a more complete and correct understanding of anaphylaxis we must have some knowledge, however little, of the phenomena of Allergy ; and since Lewis[12] says " it is not universally accepted that this phenomenon (allergy) is identical with the anaphylactic reactions that have become models in animal experiments, though it is certainly not to be doubted that it holds much in common with the latter," while Van Leeuwen[13] states that " allergy and anaphylaxis have in many cases so much in common, that a study of the first phenomenon is impossible without due consideration of the second, while, on the other hand, a complete identification of the phenomena would not be in accordance with the facts," and, while expressing this view, indicates that it agrees in general with that of Doerr, who recently published a review of the whole subject from this standpoint ; also Dowling[14] says " that on the whole it appears unnecessary to suppose that any vital difference exists between allergy and anaphylaxis," then, on such evidence, it is, I think, desirable that this paper should indicate the relationship between the two conditions.

THE RELATIONSHIP OF ANAPHYLAXIS TO ALLERGY

The word allergy was first used by Von Pirquet[15] to describe what he expressed as an altered reactivity—that is to say, that in a hypersensitive animal the reaction obtained in response to a given stimulus was abnormal. He considered the condition an acquired one, and in his admirable treatise on the subject does not mention the part played by hereditary idiosyncrasies ; later knowledge has, however, shown the important position of inborn hypersensitiveness in the production of allergic diseases and the word as now used generally embraces this type of hypersensitiveness.

In 1910 Auer and Lewis[16] in their experiments on anaphylactic shock in guinea-pigs observed and described the conditions found immediately after death in the bronchial musculature of animals which had died from shock. They found a constriction of the smooth muscle of the bronchioles ; a little later other observers described a marked eosinophylia in the alveoli of guinea-pigs which had died from anaphylactic shock. The similarity of these findings with those observed in bronchial asthma led to the idea that bronchial asthma was a sign of anaphylaxis in man ; then the view was advanced that hay fever was an expression of anaphylaxis and, later, other diseases were included in this theory. Presently, however, doubts arose as to the correctness of this theory, and it was mainly challenged by the work and writings of Coca[17] of America, who formulated the following arguments against the anaphylactic conception of allergic disease. From a consideration of these arguments in the light of recent knowledge as recorded by Van Leeuwen[18], I hope to show that, putting it at a very low value of expression, anaphylaxis and allergy have at least much in common, and that while there is much which we at present do not understand, it is submissible that future knowledge will " bind them together rather than rend them asunder."

The following are the main arguments advanced against the anaphylactic theory, and a consideration of recent work shows how difficult, not to say impossible, it is to accept them.

(1) Allergic diseases are often inherited; anaphylaxis is not.

Most observers agree, I think, that the hereditary factor in allergic disease is a very important one, while it is comparatively unimportant in anaphylaxis. Nevertheless, anaphylactic sensitisation in animals has been shown to be inheritable —it is, however, only transmissible via the mother, is specific as to antigen and lasts only a short time —whereas in allergy it may be transmissible by the father, is not specific and may last for years. Also, if we admit the theory suggested by Dale[19] that what is inherited is a tendency to acquire some kind of idiosyncrasy for foreign proteins and not for a particular protein or even a certain type of reaction, then many difficulties are removed. If the disposition to acquire the idiosyncrasy is represented, for instance, as increased vulverability of the skin and mucous membrane it would explain why the protein sensitising the child differs from that which sensitised the parent, why hereditary factors have most influence in cases sensitised in early life and why in some cases no hereditary factors are apparent, for the vulnerability may not appear until late in life. Clinical examination has shown that most asthmatics have at some time or other in their lives suffered from increased vulnerability of their skin or mucous membranes—as represented by eczema, bronchitis, intestinal ulcers. etc.

(2) Allergic symptoms may appear the very first time a person comes into contact with the exciting substance.

Considering the hereditary tendency indicated in the previous paragraph, and taking into consideration the enormous number of methods of sensitisation possible, it would appear difficult to decide with any certainty when a particular patient did first come into contact with the given antigen. Nevertheless, admitting that in a very few cases of allergy, since the first sensitising dose may be absent as far as we can ascertain, we cannot include them under a strictly experimental anaphylactic theory, we can at least argue that since serum disease may be produced by only one injection of serum, and is now generally held to be a true anaphylactic reaction, then these rare allergic cases are also of anaphylactic origin

(3) The difficulty and irregularity of inducing allergy in animals, the ease with which anaphylaxis may be induced and its comparative rarity in man—Coca states that its existence has not been proved. The difficulty with which allergics are sensitised to foreign proteins and the fact that allergy cannot be transmitted passively to animals while anaphylaxis can.

In the first place in considering these arguments it must be pointed out that anaphylaxis is an artificially-induced phenomenon, while allergy is a pathological condition which, as a rule, only befalls human beings with a certain disposition. In this connection an interesting case of epidemic asthma, accompanied by urticaria, occurring among peasants and millers is reported by Ancona. The condition was brought about by handling contaminated grain infected with parasites. Those who handled the contaminated grain contracted a non-allergic skin disease, which damaged the skin and prevented it acting as a protective mechanism, while those who came into continuous contact with the grain after a short time became hypersensitive and developed symptoms of asthma and urticaria.

While there is no doubt that anaphylaxis due to a primary injection does occur in man as recorded by Doerr and others, those investigators who have studied the subject state that it is extremely difficult to induce either active or passive allergic sensitisation in animals.

I would here like to place before you a few examples I have selected almost at random of anaphylaxis occurring in the human subject, and then consider with more detail a phenomena of no small importance not infrequently met with in general practice, and now generally held to be a true anaphylactic reaction, namely, serum sickness.

CASES OF HUMAN ANAPHYLAXIS

Case 1

The following case was reported by Graham[31] in 1921 :—

Mrs. X——, aged 23, primipara gave birth to a child, born normally without any manipulation —the placenta and membranes came away quite intact.

3rd Day—

The temperature rose to 100° F. and the breasts were very full of milk.

4th Day—

The temperature rose to 101° and the lochia was very foul; 10 c.cm. of polyvalent antistreptococcal serum was administered. Half an hour later urticarial rash with œdema of the eyelids appeared, but cleared away in a few hours.

5th Day—

Was given 5 c.cm. of serum. Temperature down, the lochia became less offensive and the patient appeared to be better and continued to progress, eating well, until—

12th Day—

When she became suddenly ill. The rash recurred with generalised intensity, the temperature fell to 96° F. and the patient became very faint and

complained of bad headache. Brandy, phenalgin grs. 10, were administered and calcium chloroid prescribed, grs. 40 being given in the next 12 hours.

14th Day—

Rash gone and patient appeared better; the calcium chloride was stopped in evening owing to a bad headache. At 9 p.m. the rash reappeared, in six hours was thick and universal; œdema of tongue and larynx developed, with cyanosis and difficulty in breathing. Adrenalin was sprayed on the fauces, and m. 5 administered hypodermically. The patient vomited twice and felt relieved; the rash diminished, but she was very collapsed.

15th Day—

In the evening complained of severe pain in her limbs; calcium lactate, grs. 10, was adminstered every four hours until patient had had 80 grains.

16th Day—

Temperature and pulse normal and pain in limbs had disappeared; from this time onward convalescence was uneventful. It is interesting to note that 15 years ago antidiphtheritic serum had been administered during an attack of diphtheria without any reaction.

Case 2

This very interesting case has been fully recorded and investigated by H. R. Dean[32]:—

The patient, a soldier aged 22, was wounded in the back and right shoulder by shrapnel on March 30th, 1917. He received prophylactic antitetanic injections on March 30th and April 4th and 20th; no symptoms were produced by the second and third injections. On May 2nd, about 11 o'clock, he was given his fourth dose of 500 units of serum. Almost immediately he called out that he felt very ill, became cyanosed and began to vomit. The cyanosis increased, the breathing became very difficult and the pulse could not be felt. Remedial measures were at once taken; after 20 minutes artificial respiration normal respiration commenced, and continued for an hour. During this period the heart could not be detected; the lips and eyelids were very œdematous. The patient died at 10 minutes past 12.

A post-mortem examination was made the same day, and the more important findings, including microscopic examination. are briefly recorded:—

(1) The liver weighed 62 oz., was deep purple in colour, and appeared to contain excess of blood.

Sections showed:—

(*a*) Extreme dilation and engorgement of sinusoids;

(*b*) Capillaries contained enormous numbers of leucocytes, of which 12 per cent. were polymorphonuclear eosinophyle;

(*c*) Liver cells showed marked changes, cytoplasm granular and nuclei stained badly; some appeared to be swollen and empty, and in many the nucleus had disappeared.

(2) Except for a congestion of the posterior part of lower lobes, the lungs appeared normal. Histologically:—

(*a*) Irregular dilation of the capillaries; in some cases the alveoli were compressed and in others dilated;

(*b*) Accumulation of leucocytes in the capillaries of the lung; many eosinophyls seen.

(3) The tonsils were enlarged and there was enlargement of the lymphatic glands of the neck, axillæ, thorax and abdomen.

Histologically, the glands were somewhat more vascular than normal and some showed an excess of fibrous tissue. No trace of thymus was present.

Death was apparently the result of falling blood pressure and cardiac failure.

Case 3

This case, reported by Sumner,[33] resulted from a prophylactic injection of anti-diphtheritic serum.

The patient was a girl 8 years old; a few minutes after an injection of 1,000 units of antidiphtheritic serum became very ill. The following were the most prominent features of the condition:—

A few minutes after the injection patient complained and said, "My throat is paining me." She then began to cough forcibly, as though trying to vomit. Pallor was noticeable round mouth and nose; she was then placed on a bed on her back. She began to foam at the mouth, and breathing became very shallow; the pulse was scarcely perceptible; she was almost comatose. There was some cyanosis of face and congestion of the conjunctiva, with protrusion of the eyeballs; the lower part of the face and tongue and mouth appeared to be somewhat swollen.

Stimulants were given and artificial respiration kept up for half an hour, but without success.

During life patient had exhibited intolerance to horse emanations, resulting in conjunctival, nasal and bronchial catarrh. She had never had any previous injection of any sort. No autopsy was performed.

While such cases as these are undoubtedly rare they do occur, and their suddenness and unexpectedness must always make them very regrettable incidents. Nevertheless, with the increasing use of prophylactic sera the milder attacks are becoming not uncommon and may be considered under the heading of serum sickness.

SERUM SICKNESS

This condition was first noticed as early as 1667 by Dennis after a transfusion of lamb's blood; a detailed description of the reaction was not given until Von Pirquet and Schick commenced their investigations in 1905. Strictly speaking, serum sickness differs from experimental anaphylaxis in that it affects individuals who have not received previous sensitising injections of serum, and Goodall, who has published observations on 3,500 consecutive cases of serum sickness following injections of diphtheria antitoxin, considers that the two conditions should for the present be considered as distinctly separate. He divides his cases into three groups :—

(1) Persons who exhibit ordinary serum sickness after a primary injection, the normal reaction to serum;
(2) Persons who have been re-injected after a lapse of at least 10 days and may show a true anaphylactic reaction;
(3) Persons who have never been previously inoculated, but who, nevertheless, show excessive severity of symptoms without any latent period, almost certainly a true anaphylaxis.

The fact that as far as can be ascertained a patient has not previously had an injection of serum does not, I take it, exclude the fact that he may in some way or other have become sensitised to the particular protein, and thus produce a true anaphylactic reaction.

Von Pirquet and Schick advanced the theory that the condition was due to a reaction between induced antibody and persisting traces of foreign serum in the blood, and they based it upon these facts :—

(1) The long incubation period, normally 8 to 12 days, is an adequate period for antibody formation;
(2) After a second injection of serum the period of incubation is very short or almost absent, due to the union of antigen with antibodies of the first injection;
(3) After second inoculations the local œdema about the site of injection may be due to preformed antibodies reacting with injected antigen.

Duke[35] points out that symptoms appearing in the absence of demonstrable antibodies is no obstacle to the acceptance of the above theory, for few, if any, processes of immunity run consistently parallel with demonstrable antibodies.

These observers also described what are known as the Immediate and Accelerated Reactions. They observed that if a second injection was given during the interval in which antibodies were still present in the circulating blood—from about the twelfth day to the fifth month—a reaction was likely to occur immediately, while if the re-injection was made a year or more after the first injection symptoms appeared after a period of several hours or days. This they explained by presuming that although no antibody was present at the time of re-injection, the body cells having previously been stimulated to produce antibodies could do so more quickly.

The following symptoms and signs are described as frequently occurring in the condition :—

(1) Fever, which is frequently considerable, reaching as high as 106° F., is generally remittent in type and the duration of which corresponds, generally speaking, with the length of the eruption;
(2) The chief clinical types of skin eruption are scarlatiniform, morbilliform and the so-called erythema exudatum multiforme. The eruption may be local or general.

    The local eruption occurring about the site of the injection appears, as a rule, before the general eruption; it is sometimes unaccompanied by fever or subjective symptoms.

    The general eruption, which may be missing, usually appears in crops over several days, and may be recurrent after the interval of several days.
(3) Often there is pain and tenderness of the joints, particularly the metacarpophalangeal joints;
(4) Œdema, particularly of the face and eyelids, sometimes associated with albuminuria, but the œdema is present before the albuminuria can be detected, an important point in the differential diagnosis of nephritis;
(5) Enlargement of the lymph-nodes was considered by Von Pirquet and Schick to be the most constant sign; the swellings are accompanied by pain and tenderness—those appearing first subside first. The condition is generally regional—rarely, a general adenitis occurs;
(6) When changes in the blood do occur, which is said to be infrequent, leucopenia, with diminution of the polymorphonuclears in particular, is observed.

But to return to our discussion of the arguments advanced against the anaphylactic conception of allergic diseases, it is to be noted that passive transmission of anaphylaxis is only possible in the first few weeks after the sensitising injection; similarly, the transference of allergic sensitisation depends upon the time of withdrawal of the blood and the state of sensitisation of the subject. That

allergic sensitisation is transmissible is clearly illustrated by the cases recorded by Frugoni and Ramirez.[20] The latter records the case of a patient who, previously free from allergic disease, after receiving a transfusion of blood became hypersensitive to horse dandruff; inhalation causing asthmatic attacks. It was afterwards shown that the donor suffered from horse asthma. Frugoni was able to transfer hypersensitiveness to rabbits hair from a sensitised subject to a child 12 years old, shown to be free from any form of hypersensitiveness; 24 hours after the injection of 68 c.c. of sensitised blood serum the child showed marked skin reactions with rabbit serum, extract of rabbit's hair and skin. Two days later the child was taken into a stable and allowed to play with a rabbit; after a short time itching of the throat and nose developed, hyperæmia of conjunctiva, lachrymation, coughing and small urticarial weals.

These observations show, I submit, that at the optimum time and in certain conditions the allergic state is transmissible in human beings, but if we accept the cellular theory of anaphylaxis and regard human hypersensitiveness as an extreme example of the condition, in which the antibodies previously in the blood have become located almost exclusively in the cells, we would not expect the condition to be passively transmissible after the passage of a certain length of time. The observations also show that anaphylaxis does occur in man.

(4) Symptoms of allergy differ from those of anaphylactic shock, but show similarity to those of drug idiosyncrasy, whereas these latter cannot be identical with anaphylaxis since drugs are considered not to give rise to antibodies, and hence cannot act as anaphylactogens.

When we consider the different types of symptoms in different animals and the variations in symptoms in man depending on the sensitiveness of the various systems, it is unreasonable, as Van Leeuwen points out, to expect that all anaphylactogens should produce the same symptoms, and variations observed in these symptoms does not disprove their anaphylactic origin.

The similarity of the symptoms of allergy and drug idiosyncrasy may be explained by consideration of the experiments of Landsteiner, who has shown that if an animal is injected with a compound of serum albumin and a certain diazotised aromatic amino-acid an immune serum is obtained which reacts specifically with other proteins combined with the same amino-acid, whereas the same albumin in combination with other amino-acids produces no reaction. In these experiments the specificity of the reaction depends on the aromatic group with which the albumin is combined, and it is possible that in drug idiosyncrasy the sensitiveness is due to a combination of human protein with drug, the drug factor acting as the specific antigen.

(5) Another argument advanced as an objection to the acceptance of an anaphylactic basis for allergic diseases is that of neurosis.

Numerous cases are recorded in which a picture, sometimes even a mental one, of the supposed source of sensitising protein will induce an attack of allergic disease. For example, a film showing a haymaking scene has been sufficient to induce an attack of hay fever. But a consideration of the work of Pavlow on conditioned reflexes does not make it difficult to conceive that, in a person who has repeatedly suffered from some disturbing, paroxysmal attack of, say, asthma, connected each time with a certain plant, a new condition reflex is set up, connecting the visual image of a plant with the nervous control of the bronchioles, and thus a picture of the plant may eventually produce an attack of asthma.

(6) Non-specific chemical substances may produce attacks of disease in an allergic subject.

Some clinicians find difficulty in accepting the anaphylactic conception of allergic diseases because frequently non-specific chemical substances are sufficient to induce an attack—for instance, a mild intestinal upset may do so. In these cases the absorption of poisonous protein cleavage products are held to be responsible, and these, of course, may be non-specific. It has been pointed out, however, that in the experimental anaphylactic animal an enhanced susceptibility to poisons of this type is present, for Dale has shown the abnormal sensitiveness of anaphylactic guinea-pigs to artificially produced toxic sera, and thus the anaphylactic origin of the attack is not inconceivable.

From a consideration of the few facts I have so ineffectually enumerated, it is, I think, apparent that the distinction between anaphylaxis and allergy is, generally speaking, a rather vague one. Strictly speaking, anaphylaxis is an experimental condition produced in animals in the laboratory; if, however, human beings be injected in a similar manner an exactly analagous condition—*i.e.*, human anaphylaxis—is produced. In allergy the primary injection as such is substituted by one or more factors, which somehow or other allow of the sensitisation of the subject. These factors are (*a*) an inherited predisposition, and (*b*) an acquired predisposition. The former I have already briefly described, and it is convenient now to consider the latter.

According to Van Leeuwen, long-continued contact with allergens under conditions which allow their introduction via skin or mucous mem-

branes does produce an acquired sensitiveness, and he describes two facilitating conditions:—

(1) A temporary reduced resistance of skin or mucous membranes due to eczema, bronchitis, conjunctivitis, rhinitis and intestinal ulcers, etc.

(2) The presence of an irritating substance in, or adherent to, the allergens—a histamine substance in pollens, for instance.

Furthermore, it is obvious that the facilitating factors may vary at different times in the same person; similarly, the predisposition, whether inherited or acquired, may and does vary in different people. Therefore, it is not to be expected that symptoms of equal severity should be produced in different subjects by a given allergen or that different allergens should produce dissimilar symptoms in the same person.

Inadequate as my exposition of the facts have been, and admitting that there are factors in the ætiology of allergic disease which we at present do not understand, it is, I think, submissible to state that future work will in all probability show the anaphylactic type of reaction as the basis of allergy.

(To be continued)

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Sport.

Boat Club.

THE UNITED HOSPITALS' BOAT CLUB is holding its Annual Regatta at Putney on Wednesday, May 22nd, at 3 p.m.

Launches will leave the London Rowing Club sharp at 2.30 p.m. Prices are 5*s.* for launches and 2*s.* 6*d.* for the motor-boat.

The following Hospitals have entered—St. Bartholomew's, Guy's, London and St. Thomas, and there will be three races—(1) eights, (2) clinker fours and (3) best fours.

Tea (price 1*s.*) and presentation of Cups will take place immediately after the races in the London Rowing Club; also dinner (price 3*s.*) will be held later in the evening. Anyone who has not been to one of these dinners should find a member of the Boat Club to introduce him to the Club.

Tickets for the races can be obtained from G. G. Ellis or F. H. Stevenson or any member of the Boat Club.

Golfing Society.

RESULT of Monthly Medal, played at Sidcup, Wednesday, May 1st (Bogey):—

F. W. Gilbert (16) ..... 2 down

H. Cameron (4) .....
E. J. Pye-Smith (6) ..... } 3 down

H. B. THORNTON,
Hon. Secretary

Notice

EXAMINATION FOR THE TREASURER'S GOLD MEDALS FOR CLINICAL MEDICINE AND CLINICAL SURGERY

THE Examination for the Treasurer's Gold Medals for Clinical Medicine and Clinical Surgery will commence on *Thursday, June 6th*, 1929, at 10 a.m., and Students who wish to enter for the Examination are reminded that they must leave their names in the Medical School Office not later than *Tuesday, May 21st*, 1929.

The Examination is open to Students, whether qualified to practise or not, who have pursued their Clinical Studies in the Wards of Guy's Hospital for not more than 30 months, such period being calculated from the commencement of the appointment of Surgical Ward Clerk.

T. B. JOHNSTON,
Dean of the Medical School.

Guy's Hospital, S.E.1.
May 6th, 1929.

Change of Address

J. U. Human, 132, Harley Street, W.1. 'Phone Welbeck 3678.

Hospital Information, etc.

Pass List

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*I. Friedman — *D. Hugo
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A N. Jones — H. H. Kenshole
J. R. F. Popplewell — J. C. de V. Hutchinson
E. Bellamy — L. V. O. Brown

* Have completed the Examination

Papers by Guy's Men

C. Worster-Drought, M.D. (1) Delayed Cerebellar Atrophy, (2) Olive-Ponto-Cerebellar Artery, *Proc. Roy. Soc. Med.* 595, *Sect. Neurol.*, 39.

C. P. Symonds, M.D. (1) Choreiform Movements in a Case of Cerebral Syphilis, (2) Epileptiform Attacks, apparently of Ponto-Bulbar Origin, *Ibid.*, 596, 597; *Ibid.*, 40, 41.

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F. N. Doubleday, L.R.C.P., M.R.C.S., L.D.S. Fractured Roots of Central Incisors with Live Pulps, *Ibid.*, 671; *Ibid.*, 45.

W. M. Mollison, M.Ch. Carcinoma of Middle Ear, apparently Secondary to Carcinoma Mammæ, *Ibid.*, 687; *Sect. Otology*, 39.

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George F. Stebbing, M.B., B.S. Chordtomy, *Lancet*, 1929, i, 654.

W. H. Craib, M.B., B.Ch. A Study of the Electrical Field surrounding Skeletal Muscle, *Jour. Phys.*, 1929, lxvi, 49.

C. Worster-Drought, M.D. Syringomyelic Anthropathy of Both Wrists, *Proc. Roy. Soc. Med.*, 1929, xxii, 756; *Clin. Sect.*, 50.

B. G. Scholefield, D.M., F.R.C.S. A Case of Craniophagus Parietalis (with 1 Text Figure), *Jour. Anat.*, 1929, lxiii, 384.

F. Bocquet Bull, L.D.S., M.R.C.S., L.R.C.P. Conditions Associated with the Teeth of Children, *Brit. Dent. Jour.*, 1929, i, 457.

Appointments

L. B. Helder, L.D.S., Hon. Dental Surg., Blackheath and Charlton Hospital.

Births

KESSEL—On May 5th, 1929, at 11, Antrim Mansions, Hampstead, N.W.3, to the wife of Herbert H. Kessel, M.R.C.S., L.R.C.P.—a son.

HUDSON—On April 9th, 1929, at "Glenfield," 431, Pinner Road, Harrow, to Adelaide, wife of James A. Hudson, L.D.S., R.C.S.Eng.—a son.

Marriage

PEREGRINE—OWEN-BROWN—On April 18th, 1929 at Branston-by-Belvoir, Leicestershire, Robert Lisle Peregrine to Hilda Winifred Owen Brown, of Fen Ditton.

EDS. { O. P. / E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLIII 1*st June* 1929 *Number* 1066

PASSIM

WHENEVER a national crisis stirs our domestic peace and fills the columns of the newspapers we feel it incumbent upon ourselves to become expert in the matter round which the critical events are revolving. So, during a test match we become expert cricketers, even though our own batting performances have never reached double figures. Again, in time of war we are all ardent generals, moving imaginary armies hither and thither on victorious expeditions. In the same way, we are now enthusiastic politicians. The chances of the various candidates and the prospects of each party are discussed with considerable animation by people who, during the politically dull periods between elections, never so much as glance at the Parliamentary news. The daily papers lying about the College may now be found opened at "Election Prospects" or "How the Constituencies are Faring," where before the headlines that greeted the eye were more likely to be "Chances for the 3.30" or "Hammond Does It Again." Even the Nurses' Home, we hear it whispered, has been the scene of political orgies unparallelled in the history of that august pile, also we are told that the hen's egg has recently become an exceedingly popular delicacy in the Home. Under the influence of all this electioneering enthusiasm we anxiously began to review our own position in the matter. For we had a definite responsibility. Not only must we make up our own minds on this vexing question of votes and candidates and parties, but we must also be prepared to give sound, solid advice to the thousands of GAZETTE readers who doubtless would be hanging on our pen for our political opinions. Fortunately, just in time, we remembered politics to be one of the subjects definitely eschewed in the GAZETTE. So, heaving a deep sigh of relief, we are content to sit back comfortably musing on our own private opinions and intentions, and urge our readers to do the same with theirs.

By the time these lines appear in print polling will be over, the Home breathless from the thrill of its first vote, and in the country as a whole either general disgust at a political stalemate or for some party one-sided satisfaction with a working majority. It seems to us not unnatural that the separation of Home and College should be as rigid politically as it is socially, and with one side of the Maze Pond voting in Southwark and the other in Bermondsey there can be no doubt as to which proved the bigger attraction to the candidates involved. While, unfortunately, not one among the political lights of Southwark saw fit to ensure success by kissing his way through the constituency, the Home can yet boast of three special meetings and a shower of pamphlets as an enticement to its 300 votes, while a neglected College is only able to point to a somewhat belated request reading "Roll Up Boys and Assist a Lady" as an evidence of its political value. Perhaps the candidate responsible had in mind the faithful extern when she worded this singular invitation to the canvass.

▭

IT may be interesting to note that the following old Guy's men were standing for Parliament at the General Election: Colonel F. E. Fremantle, Conservative candidate for Hertford (St. Albans); Dr. E. Graham Little, Independent candidate for London University; Sir Richard Luce, Conservative candidate for Derby; Dr. R. O. Moon, Liberal candidate for Oxford; Dr. Alfred Salter, Labour candidate for Bermondsey (West); Dr. W. H. Summerskill, Liberal candidate for Wandsworth

(Balham and Tooting). Of these candidates, Col. Fremantle, Dr. Graham Little, Sir Richard Luce and Dr. Salter sat in the last Parliament. It may be said quite truthfully that Guy's has a finger in every pie, and in the present case the finger would seem to be a particularly liberal one.

WE are pleased to be able to record the fact that Mr. H. L. Eason was recently elected as one of the three representatives of the Faculty of Medicine on the newly constituted Senate of the University of London.

WE understand that the Matron (Miss MacManus) is shortly journeying to Canada to attend the Congress of the International Council of Nurses to be held at Montreal from July 8th to 13th. About 6,000 members of the Nursing profession, representing 40 different countries, are expected to meet, and the subjects for discussion cover everything from nursing education to public health. We feel that the Guy's nursing point of view will be very well represented indeed.

SINCE last we went to press news of the terrible catastrophe at the Clinic Hospital, Cleveland, Ohio, in which 127 persons, including patients, nurses and doctors, lost their lives, has reached this country. Many and various have been the rumours of how this tragedy occurred, but it is of urgent importance to anyone connected with a large hospital containing X-ray plant and laboratories to understand fully the train of unfortunate circumstances. An inquiry towards this end is now being carried out, but the theory generally supported at present is that the spark causing the first explosion was generated from the crossing of two wires in an X-ray apparatus, and that the fireproof safety door of the room containing X-ray films had been left open. The combustion of the films produced clouds of hydrocyanic acid and bromine, and these fumes, together with oxygen released from neighbouring cylinders by the explosions were diffused rapidly through the building. The resulting calamity leaves one aghast, and nothing but the deepest sympathy will be felt in medical circles for Dr. Crile and his colleagues.

WE should like to call attention to the Exhibition Lawn Tennis Match which is to be held on the new Hard Court at Honor Oak Park on Sunday, June 1st at 3 p.m. Among those taking part will be such well known players as Miss Betty Nuthall, Mr. P. D. B. Spence and Mr. Nigel Sharpe. The proceeds from the small charges for admission will go to the funds of the Hospital.

Post-Operative Treatment in Acute Inflammations of the Upper Respiratory Tract

A Clinical Lecture by T. B. Layton, Esq., D.S.O., M.S.

GENTLEMEN,—After-treatment may be divided into the general treatment of the patient and the local treatment of the wound. It begins as to each of these at the moment that the decision has been made to perform the operation. The typical case is that of acute inflammation of the mastoid bone, for in acute inflammations of the nose operations should not be done if they can possibly be avoided. What I shall say, however, will apply as much to the treatment of the acute inflammation of these parts supposing no operation has been done. On the other hand, I shall sometimes illustrate my remarks by operations for conditions other than acute inflammations, noticeably the operation of tonsillectomy.

We will assume, then that an adolescent of about 15 years of age, in whom we have diagnosed acute osteomyelitis of the mastoid process, has been taken in from Out-Patients at about 4 p.m. with a temperature between 102° F. and 103° F. and a pulse rate of 100 to 120. The tongue is covered with a white fur, but is moist; the skin is soft and supple and lightly moist. We will further assume that there are no local symptoms which compel immediate interference, and therefore for reasons which we shall consider later the operation is arranged for the next day.

The general treatment may be divided into three: (1) The prevention of acidosis, (2) the prevention and treatment of septicæmia, and (3) the psychical treatment of the patient.

I—ACIDOSIS

There is no treatment of acidosis once it has really set in. All is preventive. Let me give an illustrative case:—

A small child was admitted with an acute otitis media under suspicion of mastoiditis. The drumhead was incised, and because there was a considerable degree of bronchitis the House Surgeon gave chloroform. The next day it was necessary to operate upon the mastoid; for the same reason chloroform was again given. I saw the boy next day and noticed the acidosis smell, but did not draw my House Surgeon's attention to the need of immediate action. The next day the temperature rose to 104° F., the liver became palpable and, in spite of heroic doses of bicarbonate of soda, the child died 48 hours later.

Before the operation the prevention consists in there being no undue purging or starvation. Before the war we used to have many more cases with a minor degree of acidosis after tonsillectomy than we do now, and this was because we used to "prepare" the patient with such vigour. If the operation is to be done in the afternoon there is no need absolutely to deprive the patient of food during the whole day, nor should purgatives be given of such a nature as to cause repeated stools. In addition, give sugar. Glucose in theory is best, and the best barley sugar should be made of this, but cane sugar does all that is needed, and any form of boiled sweets or ordinary household sugar will do quite well.

During the operation avoid chloroform, especially where the anæsthetic is likely to be prolonged. I do not think, however, that the matter is of sufficient importance if ether is definitely contra-indicated to warrant your abstaining from this drug if the other precautions have been taken, and I say this in spite of the case quoted above. Had other treatment been given I do not think the chloroform would have determined the fatal termination in that case.

After the operation, treatment must be begun at once if acidosis occur. Learn, then, to recognise the acidosis smell in the breath, and train your brain to appreciate its presence when merely leaning over the bed. You can do this with practice, and the test is, I believe, as delicate as that of testing for the associated acetone in the urine.

Treatment consists in the administration of bicarbonate of soda and of glucose, and in getting the patient on to food as soon as is reasonably possible after the anæsthetic. It is well, then, to give a glucose saline immediately on return to bed in every operation of any severity or duration. Of the administration of bicarbonate of soda I propose to speak in detail in the next section. With regard to food I believe it is good to give the patient some as soon after the operation as he can take it; of this I shall speak again in the third section. Here let me say two things. In order to prevent acidosis this first food should contain, or be almost composed of, sugar. After tonsillectomy there is nothing like ice-cream. I have had a child eat a whole one at 12 noon after tonsillectomy at 9 a.m. I do not see any reason why we should not do the same after operations on the mastoid. Alternatively, golden syrup may be stirred into whatever is given. This may be bread and milk, Benger's or other such preparation.

The other point that I would mention here is that the time at which the food may be taken depends almost entirely upon the post-operative vomiting, and this depends chiefly upon the way the anæsthetic has been administered. The two chief factors in causing post-operative vomiting are, in my opinion, putting the patient under the anæsthetic too quickly and causing some obstruction to the breathing, resulting in cyanosis and excessive secretion of mucus. In tonsil operations upon children it is much better to spend a few extra minutes in putting the patient under slowly. Even if this time were not saved later in the efficient performance of the operation, the extra period would be well spent by lessening the unpleasantness to the patient later. This is one of the reasons why I am so opposed to all organisations for doing large numbers of these operations in a minimal time.

II—SEPTICÆMIA

In all cases of acute mastoid disease there is some degree of septicæmia, and in some it is severe. In this last type of case no operation will pull the patient through if the other treatment is neglected. In the former the patient may be worse after the operation for a few days than he was before; this, I believe, is due to the surgeon breaking through the barrier that Nature has set up in her attempt to limit the disease.

Further, we want the patient to recover as soon as possible from the septicæmic symptoms in order to sort these out from the symptoms of those complications that may be present or may arise in any case of disease of the mastoid. For these reasons every case should be treated as a severe one, and no detail of the after-treatment should be neglected.

In every case the bowels should be thoroughly emptied, and this should include the small gut as well as the large. The mere administration of an enema or dose of salts is not enough. The patient needs a good dose of castor oil, given in plenty of time before the operation for the small intestine to be thoroughly emptied, and if this is done there is no great need to be anxious to get the bowels acting again immediately after the anæsthetic. I lay great stress upon this, and it is one of the reasons why I will never do an acute mastoid operation on the same day as the patient is admitted to hospital, unless there is some symptom which indicates that delay would be dangerous. If the small gut is not properly emptied three things may happen later. First, the patient becomes, as it were, sensitised to the toxins of the streptococcus and has a much higher temperature and more rapid pulse than he should have with the same degree of disease where proper preparation has been made. Secondly, the temperature, which should fall in 48 hours, may

remain up for several more days, giving rise to anxiety as to intra-cranial or other complications. Thirdly, the patient may get a flatulent distension of the abdomen, which is most difficult or even impossible to treat once it has set in.

We lost a child shortly after Christmas, and, I believe, this was the determining factor. We thought that she was so severely toxic that it would not be wise to delay operation until next day. She was very severely ill, but not more so than many others whom the nursing staff have pulled through in the last eight years. She developed a flatulent distension for which we could do nothing; in addition to the poisoning from the gut this caused great discomfort to the patient, preventing her from sleeping and from resting or even from lying in any position with a degree of comfort. I believe we might have pulled the child through had we deferred operation till the next day and properly emptied the bowels first.

Shortly after this one I had a similar case in a young man whom I sent into a nursing home early in the day and arranged for the operation late at night in order to give full time for the oil to act. The Matron of the Home, however, ignorant of the stress I laid upon the point and learning that his landlady had already given some mild aperient gave him salts only. It was many days after the operation before he began to go ahead in the normal manner; his temperature was irregular and we were uncertain as to whether his symptoms might not be due to some intra-cranial complication. He had much abdominal discomfort and certainly suffered more than was necessary or than he would have done had the bowels been properly seen to.

After the operation the most important part of the treatment is the administration of fluid. As the patient will not be able to take much by the mouth for several hours, a pint of saline should always be given per rectum immediately on the return to bed. To combat acidosis glucose should be added, and, for reasons we shall discuss later, a dose of bromide of potash should always be included.

After the first day you should aim at the patient taking 1 gallon of fluid every 24 hours for the next 4 or 5 days or longer if the case is a severe one. This is a large amount, and the nurse is to be congratulated if she attain to it, but if she allows the quantity to drop below 120 ounces she should be questioned as to the reason for this. The best fluid to use is a fruit juice and water, to which plenty of sugar is added. Lemonade is the most useful, but some patients will prefer orange, and grape fruit can be used as a change; the juice of half to one lemon may be added to the half-pint of water, with six lumps of sugar. This large amount of sugar combats acidosis and gives the patient the most easily digested food that can be used at once in the maintenance of his pyrexia. You will not be able to get all this amount of fluid into the patient without attention to detail. Place by the bedside a quart jug of the fluid and a feeding cup. Let everyone—sister, doctor or relative—pick up the cup each time that he or she comes to see the patient and make him drink a feeder full before asking how he is. In this way help is given to the nurse upon whom rests the responsibility of getting the fluid into the patient. It is the nurse in charge of the case, however, upon whom you must rely, and failure to get in the requisite amount is usually due to want of personality and perseverance on her part. There are a few patients who will *not* take it, but they are very few. Remember that it is not enough to bring the fluid to the patient's bedside—you must make the patient drink it.

Where a person is feeling very ill he will not raise himself up to reach out for the glass of fluid on the locker by his bedside, nor, indeed, do we want him to do so, for it prevents his getting complete rest. The receptacle of fluid must be put into his hand, the cup to the lip, and even then the attendant must impose upon him that will to take it of which he is deficient as a result of his illness and his operation. After a mastoid operation anything other than a feeding-cup is useless. The sterno-mastoid muscle has become detached, and movement of the head is painful, to raise oneself upon the elbow in order to drink from a glass hurts so much that the patient will not do it often enough in the day to take in the desired amount. I make no apology to you for going into these details, for though it is the nurse who has to do it, you are responsible to the patient and to his relations for seeing that it is done.

About 18 months ago a child of 13 continued to run a temperature of 104° F. I added up the amount the child was supposed to be taking: it came to nearly 120 ounces. I asked the nurse how much her feeder held, and she said half-a-pint. I asked her how she knew that, and she said she had measured it from the tumbler which she produced and which she said held half-a-pint. I sent for a measure from the theatre and was able to demonstrate that when filled to the brim the tumbler held just 8 ounces, and so did the feeder. But no one can use a feeder filled to the brim. I directed the nurse to fill the feeder for use and then measured the quantity. It was just 6 ounces. From this mistaken estimate we learnt that instead of having nearly 120 ounces the patient was receiving less than 70. The investigation resulted in the patient receiving over a gallon a day, with immediate improvement. Some three days later the child relapsed and the temperature again rose to 104° F. We feared some complication and called in a physician, who found none. The parents were hoping that the great man would advise some modern drug which would at once work a marvel. Much to my delight he began his discourse by saying the most important thing was lots of fluid. The practitioner remarked that we had already done that, but I was totting up the quantities from the nurse's report and found that the quantity had again fallen to 80 in the day. I had purposely not checked the amount after our previous conversa-

tion, as I did not want the girl to feel I had no confidence in her. After the consultation a short talk with the Matron of the Home resulted in a steady and permanent improvement in the child's condition.

In the few cases where the patient will not take much fluid they should be put on salines per rectum every four hours. If these are not retained you should not hesitate to use the nasal tube. Remember that with an adult you can put into the stomach 1½ pints at a time, so that by passing it twice daily 3 pints can be given to amplify what the patient will take by the mouth.

From fluid we pass to food. If the patient will take it let him have a light full diet at once, fish and potatoes on the day after the operation, and chicken the next. It is always a good sign when the patient enjoys his food. It is not necessarily a bad sign if he does not, and if he is taking the amount of sugar in the fluid as mentioned above no anxiety as to starvation need be entertained.

I have recently been trying large doses of bicarbonate of soda—*e.g.*, 1 drachm every 4 hours—and even when there is no acidosis I believe it is a good thing for the septicæmia of the hæmolytic streptococcus, which is practically always the organism with which we have to deal in mastoid cases. You will have heard of Dr. Osman's work in trying to prevent nephritis in scarlet fever. I have wondered whether the benefit that may result come not from neutralising the urine but from killing the streptococcus in the blood-stream. We know that acidosis is associated with streptococcal infections, and if it is the streptococcus that produces the acid then its neutralisation of this in the blood-stream may be beneficial. Of course, it may be that the organism needs the alkaline part of the salts on which to feed, and to give more alkali may be merely to give it more on which to live. It is a point on which we may hope to have help from the biochemist in the future. In the meantime the administration of alkalies is experimental. I have not tried it enough yet to be sure, but believe my cases during the past few months have done better with it, and I propose to use it more extensively during the mastoid season next winter. Of course, any improvement I may have had in my results recently may be due to my paying particular attention to the various points mentioned in this lecture rather than to the administration of the bicarbonate.

With the attention to the mental condition of the patient that I am going to discuss in the third part, the above form the main standby in all after-treatment. I want, however, to say something about specific drugs and sera designed to raise the bactericidal properties of the blood.

First, let me urge you not to use them at once, in every case. This for two reasons. If you rely on any specific drug you will not peg away at your patient in the way indicated above, and will thus lose far more than you will gain by their administration. Again, you want always to keep something up your sleeve, or to vary the metaphor, you do not want to throw all your forces into action at once, you should always have something in reserve. When you keep them in reserve you will find you do not often have to use them.

Next let us consider how we learn that any drug is of value. Our evidence is either clinical or scientific. Now, in the end, it is the clinical evidence that must decide, but clinical evidence is notoriously misleading—the mental factor both with patient and doctor is so great that the improvement may be due to the raised hopes or confidence of either rather than to the drug itself. If, however, clinical evidence can be guided by laboratory evidence it is of greater value, and it is for that reason that I would direct your attention to the work being done at St. Mary's Hospital. Under a slide are run a certain amount of blood and a known number of organisms, and an estimate is made of the bactericidal power of that blood to that organism. The test is repeated, but a quantity of the drug under investigation is added. The count then shows whether the power of the blood to destroy this organism has been increased or diminished.

Their researches tend to show that the only drug that does any good is salvarsan or one of its variations, such as novarsenobillon, and this only when the invading organism is the hæmolytic streptococcus, that other drugs now in vogue are all valueless or actually harmful, and that the same is so with salvarsan in relation to the streptococcus viridans. Except that I have had no experience with this organism, these findings fit in exactly with my experience. On occasion I have had very striking results in hæmolytic streptococcal lesions, notably in one of gangrenous stomatitis after whooping cough, but other drugs, such as mercurochrome, have been of no value whatever. This was also the general opinion expressed at the otological section of the Royal Society of Medicine when Mr. Fleming read a paper on the subject to us. Since then metarsenobillon has been introduced which has the advantage that it can be used intra-muscularly. Our mastoids are practically all due to the hæmolytic streptococcus, but I think it well always to cultivate in order that one may be sure in case the injection of a salvarsan type of drug is indicated.

The same is true when one comes to consider the use of sera. It is not much use in giving anti-streptococcal serum if the invading organism is a pneumococcus. Even when the organism be

streptococcus the dose to be given and the kind to be used has still to be considered. It seems to me that if you are going to use it at all a fairly big dose should be given, and I suggest 50 c.c. intra-muscularly, repeated in 48 hours. If this has no effect it is not likely that further doses will avail. Dr. Beddard once suggested to me that the right thing to do was to agglutinate the organism found against the various brands of serum. In an acute case the difficulty is that one wants to give it soon if at all, but if it is to be used in a case that relapses this may be done. Unfortunately, the only case we have had where there was time given us to do it, the serum was very strikingly of no value. Reports at present seem to indicate that anti-scarlet serum is giving the best results. It is being used in puerperal sepsis, and it would appear as if this serum contained the antibodies to all the hæmolytic streptococci. I think that the discovery that scarlet fever is due to a hæmolytic streptococcus must have a far-reaching effect upon our whole outlook as to surgical suppurations. It is still undecided whether scarlet fever is due to *the* hæmolytic streptococcus, in which case the disease is but a manifestation of its invasion different from what results in the surgical infections or whether it is due to *an* hæmolytic streptococcus distinct from, but allied to, those which cause the surgical suppurations. If this be so, we have to consider anew the relation of one organism to another within the body and the power that one hæmolytic streptococcus—the scarlatinal one—has of lowering the body's resistance to another one—that of suppuration. We must not, however, go further into this fascinating problem to-day.

I can see no advantage in giving the serum intravenously. The amount of time that is gained by rapidity of action is not great, and there is a distinct risk of anaphylaxis, whereas by the intramuscular method the risk of this is negligible compared to the seriousness of the disease for which it is administered, whether this be diphtheria or the condition we are discussing here, post-operative septicæmia.

We must reconsider within the next year or so our views on the value of anti-streptococcal serum. About a year ago the maker altered the way in which they injected the horse from which the serum is drawn, with the result that the new serum has a higher proportion of antotoxins as distinct from bacteriolysins. There is already some reason to believe that this has led to the serum being of greater value, and if this prove to be the fact a more extended use may be indicated.

III—THE PSYCHE

I have left the psychical treatment to the last because I believe it to be by far the most important of all. Under it I include the behaviour of everyone that comes in contact with the patient—relations, friends, doctors and nurses—and I include everything that is done, however small, to make convalescence a little less unpleasant, but I want especially to speak of rest and of sleep after the operation. Before doing so I would say a few words of things before the operation.

The mental quietude of the patient is my second reason for deferring the operation until the day after admission to hospital in every case where it is possible. Consider what has happened to the majority of our patients. The illness—the decision to go to the hospital—the journey—the wait—the examination by many doctors—the teaching on the case. Then the verdict of the surgeon that an operation is necessary (a great mental strain by itself at any time). The further wait—the admission to the ward (like your first evening in a school dormitory). The parting from relations—the preparation for operation. If, after all this, the patient can have a night's rest to wake up in the ward with the strangeness worn off he is in a much better condition to face the further ordeal of the journey to the theatre than he was the night before. I believe that even when he appears to take the anæsthetic well there may be some underlying conditions in the mind which are not favourable to recovery.

Some five years ago we had a mysterious death on my firm. He was a youth with a mastoid who was operated on late at night. There was no criticism either of the operation or the anæsthetic. Nothing was noticed amiss while he was on the table, nor did either the house surgeon or anæsthetist notice anything wrong when they put him to bed. Within an hour the night sister came round and found him dead. I can think of no cause of death in this boy except the psychical shock of the operation late at night after a day of wandering and waitings. He had been to one hospital, which had no bed and he had been sent on to a second, where, again, they had no bed. They had telephoned to us and we had promised to take him and so again he was sent on. He had left home in the early morning and reached our ward at about 9 p.m., being put upon the table at 11 p.m. It is easy to be wise after the event, but I cannot but think he might not have died had the operation been deferred till the morning.

Rest is not the same as sleep. A person may rest in body and in mind even though he is awake and conscious all the time. A person may sleep quite a lot and yet if in pain or with mind disturbed obtain but little rest.

Each is important, but of the two I should put rest first. For the first few days this should be absolute. With the bandage comfortable the

patient should be put in bed partly propped up on the bad side in such a position that he can take the feeder without moving the head. He should have no visitors, parents alone being allowed to see him for a few minutes only morning and evening. The difference is most striking between the child whose parents agree to this and the one whose mother insists on coming and sitting with him. Sharp at 9.30 a.m. she arrives with a toy, a bunch of flowers and a basket of fruit, and having thus aroused his interest there she sits telling him to be a good boy and be quiet so as to get well and be able to play with the lovely toy she had brought. At 10 a.m. she leaves the bedside to return again at 2 p.m., perhaps with another toy. At 5 p.m. daddy turns up to see the pet and to take mummy home, and not to be outdone by her he also must bring a parcel with some gift. And so from day to day it goes on, and the room becomes lumbered up with toys too numerous to use, with uneaten peaches and with rotting pears, while the child's temperature remains up long beyond the time it should have settled, and the parents are mourning the great expense they have occurred and are talking of the way that nursing homes all overcharge.

In the operating room it is the sudden noise that disturbs the patient; in the convalescence it is the constant monotonous one that jars so much. There used to be a donkey engine in a yard in Newcomen Street just at the end of the Medical School buildings, and all the working hours this reiterated an explosive puff, to the terrible distraction of at least one patient up in Bright.

You should try to obtain sleep rather by the general management of your patient than by the administration of drugs. At the present time house officers seem to rely on morphia and on that only for obtaining sleep. In this, as in the fight against septicæmia, you must keep something in reserve, and morphia should be the reserve. After an operation at 9 a.m. I have known a dose of morphia given at 12.30 p.m. and another already ordered S.O.S. This was given at 5.30 p.m., and the patient was round from it at 11.30 p.m., which is just the time when you may want to give a dose to carry the patient through the night instead of leaving him to go through that awful period awaiting dawn of the first day after the operation. I do not think you should ever order a dose of morphia S.O.S. until the evening round; if one is needed before then it is a sufficiently serious matter for the house officer to be summoned specially. Nor do I think you should ever order a second dose S.O.S. at the evening round. If the first dose is not enough to carry the patient through the night then it is serious enough for the house officer to be called from his bed. And if you accept these rules you will try what you can do to defer the dose of morphia as late as possible, and in doing so you will often find the dose unnecessary.

Firstly, there is the dose of bromide in the saline. If this is given while the patient is still under the anæsthetic he will often go direct into a sound sleep that will last some hours. Then, when he is round from this, he will be some hours more without needing anything. Next, there is the use of aspirin; it is usually said that this will not induce sleep except by relief of pain, but with many people it is a mental sedative as well, and with them 5 grains may just induce that quietude of mind that enables them to drop off into sleep.

Third, and most important, there is the use of food. A great cause of sleeplessness is hunger after an operation; by the evening a patient has had no food for 24 hours. Often by then the sickness has passed, especially if the operation was done in the morning. When I was House Surgeon to Mr. Lane I tried giving bread and milk at about 11 p.m. to all the cases other than operations on the abdomen, and in a large number they fell asleep after this. This is especially so with the child and young adult; it is another reason for having the anæsthetic so given that there is no post-anæsthetic vomiting.

After the first night something may be necessary for several days to induce sleep. It is for this that alcohol is so valuable. Alcohol is *not* a stimulant —it never was and it never will be—but as a depressant it is invaluable. Especially in older people, every noise, every movement is a jar to the mind, stimulating it and awakening the patient. You cannot shut out all the noises, but if you can depress the higher centres of the brain the effect will be the same. It is necessary to select the time for the dose, to order it every four or six hours is to waste it. A slightly larger dose twice daily will have more effect: one may be given after the mid-day meal before the afternoon rest and the other late in the evening, just about that time when the ward is being settled down and the lights turned out. With alcohol, the way it is given is as important as the form and time. To give port in a measure glass is a crime. If the ward does not sport a wineglass buy one at Woolworth's and present it as a gift. Spirits, again, should usually be given hot, and if a slice of lemon and a lump of sugar be added the association of ideas may just produce that effect of euphoria which is inducive to sleep.

For patients who are likely to be seriously ill and in pain for some time it is well to try opium in small regular doses instead of morphia in a

single dose. I have known Dr. Fawcett to keep a patient at rest in that way for a week by giving Tr. Opii every four hours and varying the dose between 4 and 5 drops from day to day.

And when you have rested your patient you must bring him back into full activity again. To do that you always must be thinking days ahead. I find house surgeons will keep the patient in bed for weeks and then try to bring him on quickly. As soon as possible I like to get my patients up for a very short period, gradually lengthening the time. At first this should be only for a few minutes in the evening while the bed is aired and made. It is wonderful what an effect in making them sleep that short time out of bed will have.

In the same way you must think ahead for the first day when the patient can go out of doors or leave the hospital or go away to the seaside. If you have not thought it out ahead you will find them quite incapable of going when you want the bed

The next thing is the diet. The convalescent patient needs food, but has not got the will to eat if the desire is not there. The dainty way in which it is served is of far more importance than what it contains. And here again alcohol is of use. A small glass of sherry or an apéritif 15 to 20 minutes before the meal will supply the appetite that means so much, but never give it to the patient against his will.

Lastly, there is the mental interest. In the later convalescent stage this is the most important factor of all. Unless the patient is fond of reading it is difficult to do much in hospital except at Christmas. I should like to form a troupe of minstrels for each batch of convalescent patients recovering from their operations. In this the wireless has been a great boon to the sick.

I have said enough about the general treatment of the patient. The local treatment of the wound I must defer until my next lecture.

Anaphylaxis

The Treasurer's Prize Essay for 1928. Read before the Physical Society. By J. J. Chamberlain

Continued.

PART II
ALLERGY

A BRIEF consideration of this condition will, I hope, show the kind of evidence upon which my submission is made. Here, again, I would bring to your notice the interchangeability with which the two terms anaphylaxis and allergy have been used by different authors and the difficulties and confusion to which this has led—for example, early observers noted the hypersensitiveness of certain subjects to contact with such apparently totally different substances as food, drugs, animal emanations, pollens, etc., and, despite the differences of nature and causation, they were all collected under one heading, that of anaphylaxis. It is only quite recently that observers have begun to sort out the different types of reactions that have been included under the general term hypersensitiveness, among them anaphylaxis and allergy. At the present time, to many observers, hypersensitiveness and allergy are synonymous, while others would have us believe that the latter is a sub-group of the former.

Up to the present I have given no definition of the subject under consideration, and this, I feel sure, has been noted. The omission, however, is a deliberate one, as I considered it more expedient to describe the facts and theories first. Since, however, a definition does lend an air of finality —admittedly fallacious, and properly so—to such a subject as this, I would give the definition generally held by most enlightened observers at present —*i.e.*, " Anaphylaxis is a shocklike reaction produced in animals by the re-injection of an inocuous protein to which the animal had previously been sensitised." But, at the same time, I would point out that, in my humble opinion, the definition will probably require revision or enlargement in the near future.

Much as I would like to enter into a discussion of the various types of hypersensitiveness, the limitations of this paper will not permit me, and, as I have already indicated in a previous part of the paper the origin of much of the literature on the subject, you will no doubt be grateful for such limitations. I will content myself with placing before you a definition of hypersensitiveness and a table classifying the various types of the condition as suggested by Coca and Cooke.[21] These writers define hypersensitiveness as " A condition of specific or particular reactivity, with characteristic symptoms, to the administration of or contact with any substance in quantity which to most of the same species is inocuous."

TABLE OF CLASSIFICATION

Hypersensitiveness

Normal	*Abnormal*
1. Dermatitis venenata	1. Anaphylaxis
2. Serum disease	2. Hypersensitiveness of infection
	3. Atophy or allergy

These writers also indicate that the difference between the normal and the abnormal type is dependent in the former upon " quantitative variation within the species," and in the latter " entirely upon qualitative differences within the species." They also point out that by Serum Disease they infer " manifestations of urticaria, pruritis and joint pains occurring after an incubation period of, usually, 8 to 15 days."

With this passing reference to the tremendous amount of work carried out in America, indicating as it does the difficulty of classification and rigid definition, for recent work has thrown doubts on this grouping, nevertheless, it does indicate roughly the relationship of these types of peculiar biological reactions. I will pass on to a consideration of the subject which has been momentarily deferred, namely, allergy.

The characteristic feature of allergy is hypersensitiveness to protein or other substances, and it will be interesting to note the various types of substances to which subjects can become sensitised and the conditions they are held to produce.

(1) *Drugs*—This type of substance produces a quantitative hypersensitiveness in which the symptoms produced vary in severity, but are of the same normal type; also a definitely abnormal type of hypersensitiveness in which the symptoms may be slight, such as urticaria, eczema, conjunctivitis, etc., or severe, producing asthma, diarrhœa and collapse.

Such drugs are antipyrine, salicylic acid, quinine, veronal, luminal, salvarsan, iodoform, bromides and mercury. It has been shown that the blood of sufferers from allergic disease is less able to combine with alkaloids than normal blood, and it is thought that in its free state the drug augments an allergic reaction going on or latent in the body. A second explanation may be based on the result of the experiments of Landsteiner, to which I have already referred.

The experiments recorded by Bruck, Cruveilhier and Manoiloff[22] with iodoform, antipyrine and sodium bromide all show that by the injection of sensitised serum into normal animals passive sensitisation can be transmitted. Many observers find difficulty in reconciling this type of hypersensitiveness with an anaphylactic reaction, as the " foreign protein " factor appears to be absent; some who favour it, however, assume that the drug acts on the protein molecules and produces a toxic factor—in other words, they favour the humoral theory to which I have already indicated certain objections.

(2) The connection between the various types of pollen and the production of hay fever is too well known for there to be any necessity to stress it. Objections to an anaphylactic basis for the condition has, however, been brought forward because:—

(*a*) Pollen is not a good antigen;

(*b*) The importance of hereditary factors; and

(*c*) The fact that the subject of hay fever may react to more than one protein.

In the light of what has preceded, these cannot, I think, be upheld as genuine objections.

(3) Similarly, the hypersensitiveness of many people to the so-called animal proteins——horse serum, horse dandruff, the hair of the cat, dog and rabbit, feathers, etc.—is, unfortunately, all too common. The connection between these types of sensitising antigen and the various types of bronchial asthma is, I think, conclusive.

(4) The connection between the ingestion of certain foodstuffs—such as strawberries, shrimps, crabs, lobsters, and meats such as pork and eggs, etc., by some people, and the occurrence in these people of intestinal upsets, diarrhœa and vomiting, skin eruptions, asthma and hay fever—are among the early observations of allergy. An interesting fact is that many subjects of this type exhibit a sensitisation to more than one protein, and it is said that some asthmatics are intolerant to practically all types of foodstuffs and get most relief when starved for a couple of days. When they do eat again it is noticed that the symptoms frequently re-appear about 8 hours after the ingestion of food, indicating that products of metabolism, and not the foodstuffs themselves, are responsible for the condition. French observers of what has been called Alimentary Anaphylaxis differentiate between *la grande anaphylaxie alimentaire* and *la petite anaphylaxie alimentaire*. In the former condition the symptoms are very serious, and deaths are recorded after the ingestion of only small amounts of particular foodstuffs, while in the latter condition conjunctivitis eczema, intestinal upsets and asthma are common symptoms; a third type described is a chronic condition.

It is of interest to note that foods containing uric acid are contra-indicated in many asthmatics, as most of them have a disordered purine metabolism, and the giving of such foods may precipitate an attack.

(5) Sensitising products have been ascribed to bacterial proteins, the common association between chronic bronchitis and asthma leading to the supposition that as a result of bacterolysis, bacterial products are absorbed, and bring about a state of sensitisation. Some cases appear to benefit from a course

of autogenous vaccines, and this fact has given strength to the view.

It has also been stated that this absorption of bacterial protein is responsible for the symptoms of the acute exanthemata, and while it may account for some symptoms, such as rashes, few observers believe it causes the main symptoms. Vaughan holds that sensitisation to the tubercle bacillus is a case of true bacterial anaphylaxis, while Besredka considers it quite unrelated. The subject is one pregnant with possibilities, but the difficulty of distinguishing between primary toxic action of bacterolytic products and anaphylaxis due to bacterial proteins is very great.

(6) Recently Van Leeuwen has pointed out the hypersensitiveness of some 80 per cent. of asthmatics and sufferers from other types of allergic disease living in Holland, America, Germany and this country to colloidal substances of unknown composition present in the air; these substances he terms "miasms." For many years it has been recognised that sufferers from allergic diseases, particularly asthma, were free from symptoms in some regions, while in other parts of the country the condition was much worse. During the last few years, by a careful study of some hundreds of cases and the results of treatment in a number of cases with miasm-free air, Leeuwen has been able to put forward a satisfactory explanation of the recognised phenomenon.

These, then, are the types of substances which have been shown capable of producing hypersensitiveness, and thus play an important part in the production of allergic diseases.

What, now, are the conditions which may be considered as allergic in origin? A perusal of the literature shows wide variations according to the ideas and opportunities of the various authors. Rolleston,[23] in a paper read before the British Medical Association meeting, says we may accept as such some forms of asthma, hay fever, urticaria, angioneurotic œdema, Henock's purpura, eczema, acute dermatitis, some forms of acute gastro-intestinal disturbance, and considers as doubtful migraine, epilepsy, cyclical vomiting and gout. While, on the other hand, other observers would include certain forms of pruritis, prurigo of Hebra and Besnier types, light sensitisation of the adult type, paroxysmal hydrarthrosis, functional albuminuria, dermographia, paroxysmal colitis and ichthysosis.

These conditions have been enumerated to give some idea of the large section of disease which may be defined as allergic, and although in some cases it has not up to the present been definitely proved further research will, no doubt, produce conclusive proof and possibly bring other conditions within the group.

It is of interest to note that, as Barber[24] points out, the allergic subject can frequently to the practised eye be recognised as a type apart, and often exhibits more than one allergic symptom—commonly prurigo, asthma and eczema and sometimes hay fever.

It is not necessary for me to describe in detail the symptoms of the allergic state, they are too well known to you, and, in addition, excellent descriptions are to be found in the text books and recent papers. I would, however, refer to a few of the commoner diseases before discussing biochemical findings in, and methods of treatment of, allergic diseases.

ASTHMA

This condition has recently been defined by Hurst[25] as the reaction of an over-excitable bronchial centre to blood-borne irritants and to peripheral and psychical stimuli. The ætiology of the condition shows that about 30 per cent. to 40 per cent. of asthmatics do possess some hereditary factor, and much discussion has taken place as to what exactly is inherited.

Hereditary—

Hurst believes that some sufferers inherit an irritable bronchial centre, some a toxic idiopathy and some both factors; similarly, Freeman states that three factors are necessary for the condition —(*a*) protein sensitisation, (*b*) the hereditary diathesis, and (*c*) precipitating nervous reflexes.

Coke,[26] in a contribution to a discussion at the Bristol Medical Association meeting in 1921, expressed the opinion that asthma is due to a poisoning by protein derivatives, whether liberated by anaphylaxis, bacterial decomposition in the gut, or as a result of faulty digestion. He commented on the fact that bronchial spasm as we see it in asthma can be caused by (*a*) anaphylaxis, (*b*) histamine, and (*c*) the poison group present in all proteins.

To digress for a moment, Vaughan has shown that the presence of the poisonous group in proteins is essential for the production of anaphylaxis, although animals can be sensitised to the non-poisonous part.

As you will remember, histamine is formed when carbondioxide is split off from histidine, and also by the action of putrefactive bacteria it can be formed in the intestinal mucous membrane. Eustis found histamine in the stools of three only of ten asthmatics examined. When histamine is injected cutaneously it produces a +5 skin reaction, comparable to that produced in a horse asthmatic.

Commercial extracts of pituitary and commercial peptone and proteose all contain it.

ACQUIRED HYPERSENSITIVENESS

To return to asthma, in the many cases in which symptoms of this disease appear late in life for the first time it has been assumed that hypersensitiveness has been acquired. There is reason to believe that in infants the normal protective mechanism of the intestinal mucosa is impaired in abnormal conditions of the alimentary canal; nevertheless, Rolleston suggests that it is improbable that sensitiveness arises *de novo* through absorption of protein via an impaired mucous membrane; an underlying latent natural hypersensitiveness is always present. Again, as Hurst points out, sensitisation is one factor, but whether a patient gets asthma, urticaria, an eczematous rash, gastro-intestinal attack or migraine depends if he has an irritable-bronchial centre, skin, digestive tract, or centre in his brain.

The allergens producing the condition may be inhaled, ingested in food or result from bacterial decomposition within the body, and in this connection focal sepsis must be borne in mind. They conform to the types of substances already described—viz., foods, grains, pollens, animal emanations, bacterial products and drugs.

Reflex causes of asthma such as infection of the nasal and bronchial mucous membrane in patients with an irritable bronchial centre are not uncommon; similar emotional causes are frequently met with in such subjects.

Fatigue is an important factor in the precipitation of attacks in asthmatics, and Hurst advances the view that as a result of mental or physical fatigue the suprarenal glands themselves become to varying degrees fatigued and cease to produce the normal amount of adrenalin; the result is an over-action of the vagal broncho-motor centre and results in asthma. This writer also points out that, according to some observers, hypersensitiveness to a protein depends on the power of the particular protein to depress the action of the suprarenals, the type of reaction resulting depending on the irritability of the different systems; thus, an asthmatic will have asthma, the subject of an irritable bowel will have diarrhœa, vomiting and cramp, while the subject with the irritable vasomotor system will turn on urticaria.

In an attack of asthma the bronchioles become constricted, excess of bronchial secretion is present with congestion of the mucous membrane, the engorgement causing spasm.

URTICARIA, INCLUDING ANGIONEUROTIC ŒDEMA

Urticaria has been defined as an angioneurotic affection of the skin, characterised by the sudden appearance after a transient erythema of raised whitish œdematous lesions, which itch intensely and subside after a variable time.

It has been shown that heredity plays no small part in this condition, and it is a common observation that individuals of certain families are more easily sensitised than members of other families.

The various substances producing urticaria may roughly be divided into two classes—external and internal in origin. Among the former may be considered vegetable and animal irritants, and such physical factors as rubbing, scratching or stroking the skin, which in susceptible subjects produces a condition known as dermographism.

That the basis of all these types of urticaria is anaphylactic in origin is, according to Cranston Low,[27] doubtful.

The allergens of internal origin usually produce the common type of urticaria as seen in serum-sickness; they are included in, or produced by, the digestion of such foods as shell fish, tinned meats, eggs, oatmeal, etc. Commonly, the rash is the only symptom, but frequently signs of a more severe anaphylactic nature also appear.

Drugs, focal sepsis and specific fevers are also recorded as producing urticaria, presumably in the conditions due to sepsis and fevers the subject becomes sensitised to the proteins or protein-derivatives of the infecting bacteria.

It is interesting to note that in a few cases of angioneurotic œdema in which blood examination was carried out, leucopenia, diminished coagulability and fall in blood pressure were recorded.

Now, Bruck was able to produce passive anaphylaxis experimentally by using serum from an urticarial subject. Since only a very small quantity of the antigen is necessary to produce an attack of urticaria, and in view of the fact that the periodic appearance of the crops of wheals would correspond with a temporary desensitisation, it has come to be regarded as an anaphylactic phenomenon. Before coming to even a tentative conclusion, however, I would like to place before you some idea of the precise and excellent work which has been carried out on the production of wheal formation in urticaria by T. Lewis.[28]

This author has shown that when a drop of a 1 : 40,000 solution of histamine is injected into the skin a triple response is produced, leading to wheal formation.

The Features of the Reaction are—

(1) Capillary dilatation, due to direct action of histamine on the capillary wall;
(2) Aveolar flush, caused by a reflex dilatation of neighbouring strong arterioles;
(3) Increased permeability of vessel walls by direct action, leading to œdema and wheal formation.

A patient showing susceptibility for fish was pricked simultaneously with the appropriate

amount of histamine—to which he reacted with the normal wheal formation—and a suitably diluted extract of fish; the reactions were the same in every respect. Now, when histamine is injected intravenously into cats the immediate effects are respiratory distress and a rise of blood pressure. This phase soon passes off, however, and the main reaction occurs, which is characterised by profound fall of blood pressure, due to dilatation and permeability of the capillary walls. Œdema of the tissues is not apparent, however, because there is not sufficient plasma present. Œdema, as demonstrated by pitting of the tissues, is a gradual and accumulative process. It was also observed that small subcutaneous injections of a 1 in 3,000 solution of histamine produced certain definite effects on the general circulation in man. They were :—

(*a*) A general flushing of the skin, most conspicuous on the face;
(*b*) A rise in temperature of about 1° C.
(*c*) An appreciable rise of pulse rate;
(*d*) A small decline in the systolic and a greater decline in the diastolic blood pressure.

Now, when an urticarial subject was taken and extensive whealing of the trunk produced by stroking, the effects described in *a*, *b* and *d* were all observed. Lewis concluded that a histamine-like substance, liberated mainly from the living epidermal cells, was the basis of the reaction in the urticarial subject, and it does not seem illogical to conclude that if the whealing was sufficiently extensive and the patient particularly susceptible the absorption of sufficient of the histamine-like substance would lead to general symptoms identical with those of histamine shock.

Thus, we see that the local and general reaction of histamine is similar, except that, of course, the latter is far more widespread. Moreover, the striking similarity between the symptoms of histamine and anaphylactic shock is very suggestive, but to this point I hope to refer later, merely remarking here that the urticarial reaction is probably due to a histamine-like substance, and that this substance may be produced by the reaction between antigen and antibody in the sensitised cell.

ECZEMA

It will not be inappropriate here to consider a few observations on this, the most common and frequently the most distressing of all skin conditions, in so far as those observations are relevant to the subject under consideration.

Eczema is a superficial inflammation of the skin, only the superficial vessels of the papillary layers being involved.

Although the ætiology of the condition is but imperfectly understood, various theories have been put forward, many of which as a result of recent knowledge have fallen into disrepute. Briefly considered they are :—

(1) *The Toxic Theory*—

This view was chiefly held by French dermatologists, who believed that a derivation from the normal in the chemistry of the blood accounted for the condition. Cases are cited in which the absorption of bacterial or non-bacterial proteins from the intestinal tract are held to be causative or augmentative factors.

(2) *The Bacterial Theory*—

This theory, so ably put forward by Unna, is now considered untenable; the condition is not contagious and also a newly-developed eczema vesicle contains sterile serum. On the whole, it is generally considered that the role of micro-organisms is only a secondary one.

(3) *Nervous Theory*—

Since attacks of eczema have been observed to result from, or be aggravated by nervous shock or worry, it has been suggested that the condition is nervous in origin.

None of these theories satisfactorily explain the condition, although they no doubt play a part. A consideration of the following factors does show, I think, the trend of modern opinion towards an allergic basis for the condition.

First, there is in many cases a marked hereditary predisposition, for it is a common thing to find eczema affecting several members of one family and to discover on questioning that the disease has run through several generations.

Frequently irritating substances, which in contact with normal skins produce no reaction, in contact with other "abnormal" skins produce an acute attack of eczema.

MacKenna[29] expresses his view by stating that the condition is probably due to a structural defect in the skin, visible or invisible, which may hereafter be proved to be congenital or acquired, and which predisposes to an abnormal reaction of the skin to irritants.

So-called predisposing causes may be enumerated *ad lib.*; we will consider the more important ones.

(*a*) *Digestive Disturbances*—

One observer states that 50 per cent. of all asthmatics suffer from gastro-intestinal disturbances, and it is a common observation that the inclusion of certain foods and the exclusion of others in the diet may alternately produce or aggravate or relieve an attack of eczema.

Excess of fats and carbohydrates in the diets of infants is a common factor in producing infantile eczema. Some observers suggest that hyperacidity plays a part in the production of eczema in adults, while others stress the importance of impaired digestion, thus allowing undigested or only partly

digested proteins access to the circulation, while yet others enlarge on the probability of sensitisation to the proteins of organisms infecting in particular the large bowel.

(b) Nervous Disturbances—

Besides the fact that numerous cases are reported in which anxiety, stress and nervous upsets have precipitated or aggravated attacks of eczema, there can be no doubt that nervous reflexes are necessary before an inflammatory condition like eczema is brought about. Also the relationship between the sympathetic nervous system and the endocrine glands is too well known for me to stress the point, apart from pointing out that cases of eczema in subjects suffering from thyroid deficiency have improved on the administration of thyroid extract.

(c) Gout and Asthma—

Patients suffering from the metabolic upsets which produce "gout" are particularly liable to react with an eczematous outbreak to any form of external irritation, the explanation advanced being that as the blood is overloaded with katabolic products the nutrition of the skin becomes impaired.

Asthma and eczema are frequently associated in the same person, the attack of one condition disappearing to give place to an attack of the other.

In 1921 Barber[39] stated that the association of eczema with protein-sensitisation was a definitely established fact; he described a case of "baker's eczema," confined to the hands and forearms, the subject giving + cutaneous reactions to wheat leucosin and globulin. Reactions to drugs, chemicals and non-proteins were termed "anaphylactoid" reactions, and the writer also stated that eczema in adults is less likely to be due to food sensitisation than one type of infantile eczema he described; rather in chronic cases to focal sepsis.

HAY FEVER

The association between certain types of plants and a hypersensitiveness in certain subjects was recognised in comparatively early times. In 1565 Batallus reported a case in which odour of roses caused headache, sneezing and itching of the nose; in 1577 Von Helmont described a case of seasonal asthma, and Benningerus in 1673 wrote on rose catarrh. Bostock in 1819 was the first to recognise hay fever as a clinical entity, and Blackley, a Manchester physician, in 1856 commenced a very thorough and accurate series of investigations, which led him to conclude that the condition was due to pollen.

The condition is characterised by fits of sneezing associated with a profuse watery discharge, irritation of the nasal and conjunctival mucosa, nasal obstruction and often marked depression and prostration.

It is to be noted that the affection shows itself in early adolescence and tends to improve with age; is distinctly hereditary, and not infrequently a mental shock is the cause premier of an attack. The condition is frequently associated either in the patient or his relations with other allergic conditions such as asthma, urticaria, etc.

In this country most attacks begin about the end of May and terminate in August, and are definitely due to proteid substances contained in grass pollen—the most important pollen being that of Timothy grass. In America a large number of attacks occur in the autumn and are recognised as being due to the pollen of a plant which flowers late in the year.

Some individuals, however, are sensitive to the scent of plants, and others to emanations from animals, particularly the horse, cat and dog.

It has only been possible to touch on a few of the common allergic diseases here, but the various factors as described can be observed in many of the other allergic conditions.

BIOCHEMICAL INVESTIGATIONS AND RESULTS IN ALLERGY

I should now like to draw your attention to the results of some of the recent biochemical investigations carried out on allergic subjects in this hospital by Barber and Oriel.[30] These observers point out that in all the allergic conditions they investigated, the same biochemical cycle of events occurs. There is, in fact, a "biochemical formula," and that despite the differences in clinical symptoms the underlying metabolic changes are essentially the same. Their findings are based on repeated examinations of blood and urine during active and quiescent periods of the particular conditions—and as a result of careful investigations carried out on a large number of allergics they arrived at the following conclusions regarding (*A*) the blood and (*B*) the urine.

A—Blood

Amino-Acid Content—

(1) During the acute paroxysms of allergic manifestations the amino-acid content of the blood is raised;

(2) In cases of Besnier's prurigo, frequently associated with asthma, hay fever and ichthyosis, although high figures were obtained during comparative freedom from symptoms, during the periods of itching the figures increased;

(3) In cases of simple urticaria, angioneurotic œdema or asthma, the figures obtained during quiescent periods were nearly normal, but constantly raised during attacks;

(4) It is probable that during the acute attack of the condition the uric acid and creatinine content of this blood is raised.

Chloride Content—

(1) A fall in the chloride content, particularly of the corpuscles, due presumably to the chloride being taken up by the tissues ;
(2) The retention of chloride so that its excretion is diminished or absent in the urine during the paroxysms and its subsequent excretion in increased amount after the paroxysms, at which time the chloride content of the blood may be raised.

B—Urine

(1) The rise in the urinary excretion of ammonia, so that the ratio of free acid to ammonia combined acid is altered, often very strikingly ;
(2) The deposition of urates in the urine in the pre- and paroxysmal stages ;
(3) The intensity of the ether reaction during the period of active symptoms ;
(4) The diuresis, with decreasing acidity and sometimes marked alkalinity of the urine in the post-paroxysmal stage.

These observers state that they recognise a pre-paroxysmal, a paroxysmal and a post-paroxysmal stage, and that they are able from an examination of the blood and urine to state with confidence in which stage the patient was when the specimens were taken.

The following is the summary given of the cycle of events they have found in allergic conditions.

PERIOD PRECEDING OR DURING PAROXYSM

Blood—

(1) The amino-acid content rises ;
(2) The uric acid and creatinine are apparently increased ;
(3) The chloride content of the whole blood falls.

Urine—

(1) Free acidity rises ;
(2) Urates are often deposited when urine cools ;
(3) Diminished water excretion so that specific gravity is usually high ;
(4) Retention of chlorides ;
(5) Strongly positive ether reaction ;
(6) Ammonia excretion rises and ratio of free acid to ammonia-combined acid is altered ;
(7) Excretion of amino-acid, creatinine and uric acid begins to rise.

PERIOD FOLLOWING PAROXYSM

Blood—

(1) The amino-acid content falls ;
(2) The uric acid and creatinine diminish ;
(3) The chloride content of whole blood rises.

Urine—

(1) The free acidity rapidly falls, the urine tends to become neutral and finally alkaline ;
(2) Increased excretion of water, so that volume rises and specific gravity falls ;
(3) The excretion of chloride is increased ;
(4) The ether reaction diminishes and may entirely disappear ;
(5) The excretion of ammonia begins to fall, but lags behind diminishing excretion of acid, so that value of free acid to ammonia is still further altered ;
(6) Excretion of amino-acid creatinine and uric acid gradually falls.

If I appear to have overstressed these findings it is because I believe them to be of great importance, especially in postulating an anaphylactic basis for allergic reactions, and also because it is to further biochemical research that we must look for an ultimate solution of the problem.

CASE OF ANAPHYLACTIC SHOCK

The similarity of these findings with those obtaining in anaphylactic shock is so striking that I have been tempted to include for comparison a list of the biochemical observations of these investigators in a case of anaphylactic shock resulting from the injection of anti-dysenteric serum. They record from their urinary findings :—

(1) The first specimen of urine collected after the shock deposited urates ;
(2) The first three specimens of urine contained albumin ; albuminuria occurs in hay fever subjects after injection treatment and in serum sickness ;
(3) The ether reaction was strongly positive in all the urines of the first 12 hours following the shock, and diminished gradually.
(4) During the first 12 hours the free acidity rose very markedly ; it then fell, but the ammonia excretion remained relatively high, thus disturbing the normal acid-ammonia ratio ;
(5) The chloride excretion was low throughout ; began to rise on the evening of the third day ;
(6) The creatinine excretion was high ;
(7) After an initial period of anuria the urinary excretion was very small, a highly acid concentrated urine being passed. By the evening of the second day the post-paroxysmal diuresis had become established and a large quantity of dilute urine of low acidity was excreted.

Since I have already indicated that the liver plays some role in anaphylaxis, both in man and in animals, it will be of interest to note the conclusions arrived at by Zeckner[40] and his co-workers as a result of their investigation of blood-sugar changes in fatal bacterial anaphylaxis in rabbits.

(1) During bacterial anaphylaxis there is a gradual rise in blood sugar level, which attains an extremely high value at the time of death ;
(2) The curve of the blood-sugar is quite similar whether anaphylaxis is induced by organisms which affect the blood-sugar in unsensitised animals or by organisms which have no such effect ;
(3) No instances occurred in which there was not a marked hyperglycæmia in anaphylaxis.

(*To be concluded*)

Current Cases

III—A Case of Post-Vaccinal Encephalitis

F—— S——, aged 14, was vaccinated for the first time on January 11th, 1929, prior to entering the service of the Southern Railway Company. He was in normal health for the subsequent 11 days, but on the morning of the 23rd he was unable to dress, and returned to bed in a semi-conscious state. He answered no questions until the evening, when he said that his head ached. On the 25th, in the evening, he was admitted to the Infectious Fever Hospital with a temperature of 103°, pulse 136, quite comatose. The vaccination had taken well, but the marks were not septic. There was no neck stiffness and a doubtful Kernig ; the leg resisted extension a few degrees from the straight, but it was possible to overcome this without undue force.

The signs in his nervous system were complete absence of abdominal reflexes, the greater briskness of the right over the left knee jerk, the left being difficult to elicit, and the presence of an extensor plantar response on the right side. The child was incontinent and constipated. The arms were spastic and tightly clasped across the chest. At 6 p.m. the same evening lumbar puncture was performed. The fluid was under considerable pressure, shooting out in a stream ; 30 c.c. were allowed to flow off before the fluid dripped at normal speed. The fluid was crystal clear. It remained sterile at 48 hours culture. Albumin was greatly increased ; .05 per cent. sugar was present, but reduced in quantity. The chlorides were 771 mgms. per 100 c.c. within normal limits, while the cells were increased 250 per c.mm., all being lymphocytes. Lumbar puncture was repeated on the two following days, 10 c.c. being withdrawn on each occasion, but the fluid was not under pressure. The temperature and pulse fell steadily to normal on the third day after admission, and consciousness returned, the child complaining of headache. At this time extensor responses were present in both big toes, but otherwise the signs remained the same.

On the fifth day after admission the stiffness in the arms had disappeared, marked paresis being present. The extensor response in the right toe was most marked, and the right knee jerk became greatly exaggerated. The sole of the left foot was hypersensitive, the slightest touch causing pain. The child was at this time "querulous" and "emotional," laughing feebly at every question and during every response. This condition remained for a further week.

Seven days after admission the child became restless and complained of headache again. Lumbar puncture, 10 c.c., was again performed. The examination of the fluid yielded the same results. The headache and restlessness disappeared.

From this time forward the signs gradually disappeared. Incontinence slowly ceased, the abdominal reflexes returned one by one, constipation became less obstinate and the weakness in the arms and the right leg became less. These on February 29th were normal. The right extensor response was the last sign to disappear.

One further change deserves mention. A week after admission, when the hyperæsthesia of the sole of the left foot was marked, the child complained of shooting pains in the left foot. The foot was swollen over the dorsum and the calf of the left leg exquisitely tender. The left knee jerk was obtained with difficulty on reinforcement. There was weakness, particularly of the extensors. The pains and tenderness lasted three days and were succeeded by a "numb feeling." The knee jerk returned to normal on the fourth day. The left leg was found greater in girth 1½ inches greater in the thigh and 1 inch in the calf. This difference has remained, while the foot drop, present on getting up, passed off during the next month.

For a month after getting up on February 20th the patient showed an irregular small evening rise of temperature, for which no cause could be found. He was finally discharged at the end of March.

The case of this boy seems typical of the majority of such vaccinal sequelæ. It will perhaps not be out of place to tabulate the main features and indicate briefly the conclusions of the Committee of the Ministry of Health for the 62 cases occurring during the years 1922 and 1923.

SUMMARY OF MAIN FEATURES

1. (i) Age 14.
   Fifty of the 62 cases were between the ages of 6 to 16 inclusive.
   (ii) A primary vaccination.
   All cases occurred in children not previously vaccinated.

(iii) "Incubation period," or lapse of 12 days before onset of symptoms.
Fifty-six of the 62 cases occurred between the seventh and fifteenth day inclusive; 34 were on the eleventh and twelfth days. The 6 remaining cases occurred on the second, fourth, twenty-third and twenty-sixth, and were all in young infants, where the diagnosis was in doubt.

(iv) Vaccination marks normal.
This was universally the case.

(v) The onset was sudden and coma rapidly developed. Vomiting, which has been a very consistent feature, was absent. Definite signs of a diffuse encephalitis and very little of meningitis.
The 6 cases subjected to a post-mortem showed diffuse encephalomyelitis with no features to distinguish it from other forms of that condition. In all 6 post-mortem cases there was some slight meningeal congestion.

(vi) The cerebrospinal fluid where recorded was "normal." One says "clear increased pressure." In the case of F—— S—— the fluid was clear, very much under pressure and showed a large excess of cells, which were all lymphocytes, greatly increased protein content, reduced sugar content and normal chlorides.

(vii) F—— S—— made a complete recovery.
Thirty-six of the 62 cases died. The remaining 20 recovered completely, except in one or two cases—in one hemiparesis seemed to be permanent. This absence of sequelæ of physical and mental nature is a striking feature of the condition.

ÆTIOLOGY

The pathogenesis of this condition at first sight seems to offer little difficulty in solution. Yet no clear-cut picture has emerged from the long and thorough investigations of the Ministry of Health Special Committee for the years 1922 and 1923. Unfortunately, I have not been able to get the findings of a more recent investigation.

Briefly, the problem of causation resolves itself into this. Are the cases:—

1. An encephalo-myelitis due to the vaccine virus. Cerebral vaccinia. This cannot be directly disproved, but very weighty evidence is against it. The condition has never been known to occur in millions of previous vaccinations. Furthermore, since several lymphs were used in the vaccinations of these 62 cases, it would be necessary to assume that all became simultaneously neurotropic. The mere presence of vaccine virus in the brain of recently vaccinated persons cannot be regarded as of any weight in view of recent observations proving the virus to be present for about 14 days in all tissues of vaccinated persons.

2. That the disease is due to one of the already recognised neurotropic viruses—*e.g.*, encephalitis lethargica or poliomyelitis. In which cases there are two alternatives:—

(1) The known virus has produced the condition aided by the vaccinia virus; or

(2) The cases are due to "Fortuitous Overlapping"—*i.e.*, cases in an outbreak occurring accidentally in those recently vaccinated. Encephalitis lethargica has been dismissed. Clinically, there is no resemblance. Histological findings and the distribution of the lesions throughout the brain and cord are unlike those of encephalitis lethargica. Furthermore, the seasonal incidence of encephalitis lethargica is chiefly in the winter months, while the post-vaccinal cases occurred in the summer. Polio-encephalitis has received much more serious attention.
"Fortuitous Overlapping" is out of the question, since statistical estimations require an enormous outbreak of poliomyelitis, such as there was not, to provide such an incidence among the vaccinated.
The supposition of a collaboration between the two viruses is supported by the fact of the similar seasonal incidences. Furthermore, there is some correspondence between areas of greatest incidence of poliomyelitis and those of post-vaccinal encephalitis.

The evidence against is as follows:—

(1) Polio-encephalitis is a very rare manifestation of poliomyelitis. One case occurs in an exceptionally large epidemic. Furthermore, the cerebral form of poliomyelitis occurs almost wholly in young children.

(2) The absence of subsequent paralysis is very unlike poliomyelitis.

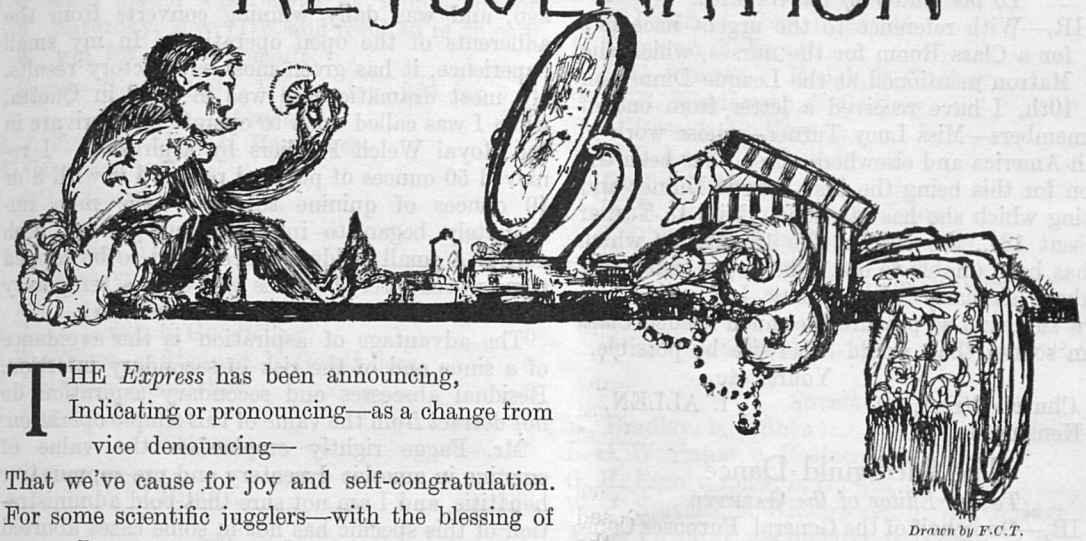
(3) The inability to transmit the disease to monkeys is in contrast.

3. Lastly, that the disease is due to a new unknown neurotropic virus. The evidence for this rests on the suggestion that the clinical symptoms are for the most part uniform, that the age of onset and time and onset after vaccination are within small limits, and that the tendency to complete recovery in those who live and the inability to transmit the infection to animals are unlike known neurotropic viruses. On the other hand, the pathological and histological findings in the six cases examined, while uniform, do not in the majority of specimens present any characteristic features.

It is more romantic to think of the evolution of a new disease, but as yet there is no great weight of evidence to substantiate its birth, and the question awaits further investigation.

C. FRASER BROCKINGTON.

REJUVENATION



Drawn by F.C.T.

THE *Express* has been announcing,
Indicating or pronouncing—as a change from vice denouncing—
That we've cause for joy and self-congratulation.
For some scientific jugglers—with the blessing of James Douglas—
Have given to the world Rejuvenation.

Voronoff has been forestalled,
All his sheep have gone quite bald,
And his monkeys, too, are near disintegration.
While the aged need not loiter,
For its certified by Reuter,
Central News, as well as Press Association.

Bernard Shaw, his fame imperilled,
Throws aside his *Daily Herald*,
And sends away his nut-banana fritters.
Announces he's a glutton,
With a passion for cold mutton,
To be washed down with a glass of gin and bitters.

That enterprising embryo,
Professor M. S. Pembreyo,
Rejuvenated has still more prolific habits.
While Mr. T. J. Evans
Ejaculates "Oh, Heavens!
These Physiologists are simply rabbits."

And Dr. Marie Stopes
In difficulties, copes
With loud demands for further large editions.
Since the reproductive elf
Cannot control himself,
Without her books we'd all have inhibitions.

Eternal youth, I'm guessing,
Is not an unmixed blessing.
There's more than one opinion on its merit.
The inventor will be killed
By someone who was willed
Some cash—which now he can't inherit.

So, come all ye Physicians,
Ye Surgeons, Obstetricians,
And join in this, my song of jubilation.
For we'd all be on the dole—
Yes, we *should* be in a hole—
Should anyone invent Rejuvenation.

ASCITE.

Correspondence

A Class Room for Nurses

To the Editor of the GAZETTE

SIR,—With reference to the urgent necessity for a Class Room for the nurses, which the Matron mentioned at the League Dinner on May 10th, I have received a letter from one of our members—Miss Lucy Turner—whose work in South America and elsewhere abroad has been the reason for this being the first League Dinner and Meeting which she has attended. Miss L. Turner has sent 18*s.*, the cost of the 18 dinners which she has been unable to eat. She hopes that other members similarly placed may be inclined to follow suit, and so procure the much needed Class Room sooner than would otherwise be possible.

Yours, etc.,

I. ALLEN.

1, Church Street,
Kensington, W.8.

The Mediguild Dance

To the Editor of the GAZETTE

SIR,—On behalf of the General Purposes Committee of the Royal Medical Benevolent Fund Guild, I want to thank all those of Guy's —Staff, Nurses and Students—who by their hard work contributed to make the Guy's dance for the Guild, held at the British Medical Association House, the great success that it was. As a result over £100 will be handed over to the funds of the Guild, and this pioneer dance has encouraged the arrangement of successive ones by other hospitals, and therefore there is every reason to believe that by these dances the Guild will benefit materially.

St. Bartholomew's is organising one for Thursday, June 13th, and St. Thomas's one for Thursday, July 11th. It is hoped they will continue through the autumn, and that the series will become annual.

Yours, etc., M. S. FRIPP,
Chairman of Council R.M.B.F.G.

19, Portland Place, W.1.

A Belated Letter

[*The following interesting letter, written nearly* 13 *years ago, has just been forwarded to us*—ED.]

To the Editor of the GAZETTE

SIR,—I was very interested to read a Clinical Lecture by Mr. Fagge on Liver Abscess in the last GAZETTE that reached me.

He very rightly foresees that tropical diseases will be commoner in England after this war than in the past, and the lay public will expect the general practitioner to know more about them than heretofore.

I was surprised to find him describing Roger's method of treatment by aspiration as "out-of-date," and feel sure that most surgeons with Indian experience will differ from him.

I believe I am right in saying it was the most approved method of treatment in India two years ago, and was daily winning converts from the adherents of the open operation. In my small experience, it has given most satisfactory results. My most dramatic case was in 1912 in Quetta, when I was called upon to operate on a private in the Royal Welch Fusiliers by aspiration. I removed 50 ounces of pus and replaced it with 8 or 10 ounces of quinine solution; the man immediately began to improve and put on flesh daily. A small residual abscess had to be tapped three weeks later, but this was only a temporary setback and he made a splendid recovery.

The advantage of aspiration is the avoidance of a sinus and of the risk of secondary infection. Residual abscesses and secondary aspiration do not detract from the value of this simple operation.

Mr. Fagge rightly emphasises the value of emetine in amœbic dysentery and pre-suppurative hepatitis, and I am not sure that bold administration of this specific has not in some cases aborted a liver abscess after suppuration has commenced. I have no books of reference to hand, but believe such cases have been recorded.

One of the first cases in which I used emetine was in Karachi in September, 1912, where I was called to see a gunner who was thought to have a liver abscess. His appearance was typical and his liver enlarged and tender, but several exploratory punctures failed to locate the pus. I therefore recommended emetine, and within 24 hours the sweating and fever ceased, the pain was much relieved, and he was a changed man. Repetition of the dose had further gratifying results, and in 48 hours I was able to return to Quetta confident that an operation would not be necessary. I heard subsequently that his recovery was uninterrupted.

Emetine has as specific an action in amœbic dysentery, and its sequelæ, as quinine has in malaria, and those of us who had treated dysentery before 1912 rise up and bless the name of Leonard Rogers, who put emetine on the market in that year, after much patient and careful experiment.

The original work of Sir Leonard Rogers in cholera, dysentery and kala azar, to mention only a few of his activities, has saved more lives than all the German hordes have destroyed in this world's war, and he has had the satisfaction, not given to many men of science, of seeing the successful and far-reaching results of his work.

We in the Indian Medical Service are proud to belong to the same service as this great man.

Yours, etc.,

C. H. REINHOLD, *Captain, I.M.S.*

Mesopotamia. *July 1st*, 1916.

Cricket

Guy's v. Wimbledon

THIS match was played at Wimbledon on Saturday, May 11th, and resulted in an easy win for our opponents.

Scores—Guy's, 139; Wimbledon, 225 for 5.

Guy's

R. J. Eustace, l.b.w. b. Hargraves	13
H. Cameron, b. Colle	1
J. A. G. Starnes, b. Colle	0
S. R. Peatfield, b. Colle	44
G. J. Clarke, b. Walte	12
D. J. Rees, st. Grain, b. Walte	9
J. Durr, c. Rankin, b. Goodfellow	45
A. J. D. Lewis, b. Goodfellow	0
J. P. O'Shea, c. Steward, b. Goodfellow	0
R. Outfin, b. Goodfellow	5
R. Hogbin, not out	2
Extras	8
Total	139

Wimbledon

G. Hargraves, l.b.w. b. Durr	17
M. Steward, c. Peatfield, b. O'Shea	1
T. A. Mason, c. Rees, b. Durr	86
G. R. Walte, c. O'Shea, b. Clarke	62
G. B. Fisher, l.b.w. b. Durr	3
M. Kander Bogh, not out	42
A. W. Goodfellow, not out	8
Extras	6
Total (5 wkts.)	225

J. W. Steward, C. D. Rankin, R. L. Grain and N. Colle did not bat.

Bowling—Durr 3 for 66, O'Shea 1 for 42, Clarke 1 for 8.

Guy's v. Streatham

THIS match was played at Streatham on Wednesday, May 15th, and resulted in a win for our opponents by the small margin of 8 runs.

Guy's won the toss and batted first. The Hospital started badly, no fewer than 5 wickets being down for 29 runs. Lewis and Widdowson, however, made a useful stand, bringing the score up to 65 before the latter was bowled by Godfrey. Guy's were all out for a total of 71.

Streatham replied with 79, O'Shea and Whitteridge bowling well, the latter taking 4 wickets for 29 runs, including the "hat trick."

Scores—Guy's, 71; Streatham, 79.

Guy's

R. J. Eustace, c. Godfrey, b. Escott	1
S. R. Peatfield, l.b.w. b. Escott	3
H. Cameron, b. Escott	0
J. A. G. Starnes, c. Hough, b. Godfrey	9
E. V. B. Widdowson, b. Godfrey	20
D. J. Rees, b. Godfrey	0
A. J. D. Lewis, b. Godfrey	28
R. Outfin, not out	3
R. A. P. Hogbin, c. & b. Johnston	1
J. P. O'Shea, c. Johnston, b. Godfrey	0
S. M. Whitteridge, c. Escott, b. Godfrey	0
Extras	6
Total	71

Streatham

W. Bradley, b. O'Shea	8
L. G. W. Eaton, c. Eustace, b. O'Shea	0
G. H. Escott, l.b.w. b. O'Shea	22
W. J. Stevens, c. Widdowson, b. Whitteridge	20
A. W. Foxcroft, c. Cameron, b. O'Shea	0
E. R. Heart, c. O'Shea, b. Whitteridge	7
H. C. Dodgson, b. O'Shea	12
A. E. Ife, c. O'Shea, b. Whitteridge	0
E. Godfrey, c. Peatfield, b. Whitteridge	0
R. G. Hambly, b. O'Shea	6
E. P. Barnes, not out	1
Extras	3
Total	79

Bowling—O'Shea 6 for 26, Whitteridge 4 for 29.

Guy's v. Honor Oak

THIS match was played at Honor Oak Park on Saturday, May 18th, and resulted in a win for Honor Oak.

Scores—Guy's, 91; Honor Oak, 192 for 7.

Guy's

R. J. Eustace, st. Mully, b. Maxwell	7
J. A. G. Starnes, run out	13
F. H. B. Spence, b. Maxwell	6
H. Cameron, b. Gibson	0
G. J. Clarke, c. Weymouth, b. Maxwell	11
J. Durr, b. Gibson	0
D. J. Rees, c. Nichol, b. Maxwell	15
A. J. D. Lewis, b. Maxwell	3
E. V. B. Widdowson, b. Maxwell	21
J. P. O'Shea, b. Maxwell	2
S. M. Whitteridge, not out	2
Extras	11
Total	91

Honor Oak

L. W. Recordan, hit wkt., b. Clarke	92
C. E. Nicol, c. Durr, b. O'Shea	12
E. Weymouth, l.b.w. b. Durr	27
H. R. Siddall, c. Durr, b. Whitteridge	10
W. Best, b. Clarke	0
R. Henty, l.b.w. b. Durr	8
T. Maxwell, l.b.w. b. Durr	5
H. Eaitch, not out	20
E. J. Mully, not out	8
Extras	10
Total (7 wkts. dec.)	192

F. Mully and G. Gibson did not bat.

Bowling—Clarke 2 for 11, Durr 3 for 64, Whitteridge 1 for 31, O'Shea 1 for 46.

Guy's v. Crofton Park

THIS match was played at Honor Oak Park on Monday, May 20th, and resulted in a win for our opponents by 30 runs.

Scores—Guy's, 126; Crofton Park, 156.

Guy's

R. J. Eustace, l.b.w. b. Willson	3
G. J. Clarke, l.b.w. b. Adams	4
F. H. B. Spence, b. Adams	3
E. V. B. Widdowson, c. Jessop, b. Willson	13
J. Durr, c. Jenkinson, b. Sharpe	19
A. J. D. Lewis, c. Jenkinson, b. Sharpe	37
D. J. Rees, b. Willson	12
H. Cameron, c. Jenkinson, b. Sharpe	12
J. P. O'Shea, c. Wells, b. Sharpe	0
R. Outfin, not out	5
S. M. Whitteridge, c. Jessop, b. Sharpe	4
Extras	14
Total	126

Crofton Park

O'Sullivan, st. Outfin, b. Durr	17
Wells, b. Durr	9
Jordan, st. Outfin, b. O'Shea	45
Sharpe, l.b.w. b. O'Shea	7
Grierson, c. O'Shea, b. Durr	1
Willson, c. Rees, b. Cameron	40
Gooding, c. Durr, b. Cameron	17
Jessop, l.b.w. b. O'Shea	3
Manuel, l.b.w. b. O'Shea	0
Jenkinson, b. O'Shea	1
Adams, not out	0
Extras	16
Total	156

Bowling—O'Shea 5 for 32, Durr 3 for 39, Cameron 2 for 4.

Hospital Information, etc.

Notices

3RD YEAR'S PRIZE IN DENTAL SUBJECTS

THE following award has been made:—
S. C. Holms, *Prize* £10.

T. B. JOHNSTON,
Dean of the Medical School.

Guy's Hospital, S.E.1.
May 23rd, 1929.

GUY'S HOSPITAL THIRTY CLUB

THE Annual Dinner of the Guy's Hospital Thirty Club will be held at Gatti's Restaurant on Friday, June 14th, at 7.30 p.m. for 8 p.m.

Will any members desiring to be present, who have not already done so, please notify Dr. J. J. Conybeare, Medical School Office, Guy's Hospital, S.E.1, as early as possible.

Papers by Guy's Men

C. Worster-Drought, M.D. Acromegaly, *Proc. Roy. Soc. Med.*, 1929, xxii, 910; *Clin. Sect.*, 60.

E. P. Poulton, M.D., and E. C. Warner, M.B. Deficiency of the Anterior Lobe of the Pituitary, *Ibid.*, 912; *Ibid.*, 62.

C. Worster-Drought, M.D., and another. Endocrinopathy of Mixed Origin, probably Thyro-Pituitary, *Ibid.*, 916; *Ibid.*, 66.

C. Worster-Drought, M.D., and another. (1) Dyspituitarism of Frohlich Type with Extreme Genital Dystrophy, (2) Dyspituitarism of Mixed Type: Anterior Lobe; Excess and Posterior Lobe Deficiency with Glycosuria, *Ibid.*, 919; *Ibid.*, 69.

N. Mutch, M.D. A New Index of Intestinal Putrefaction, *Lancet*, 1929, i, 1034.

G. P. Pritchard, L.R.C.P., M.R.C.S., L.D.S. Some Notes on the Origin and Prevention of Gingivitis, *Brit. Jour. Dent. Sc.*, 1929 (May), No. 1337, p. 129.

R. S. de Bruyn, M.R.C.S., L.R.C.P., and Ruby O. Stein. A Case of the Progressive Hypertrophic Polyneuritis of Dejerine and Soltas, with Pathological Examination, *Brain*, 1929, lii, 84.

Norman Burgess, M.A., M.D., M.R.C.P. Alopecia Areata, Associated with Frontal Sinus Disease, *Brit. Med. Jour.*, 1929, May 19th.

Change of Address

H. C. J. Van den Broucque, L.D.S., "Starmer," London Road, Guildford.

F. W. Rowland, 8, Brierley Avenue, West Mersea, Colchester, Essex.

Marriage

PEREGRINE—OWEN-BROWN—On April 18th, 1929, at Branston-by-Belvoir, Leicestershire, Robert Lisle Peregrine to Hilda Winifred Owen-Brown of Fen Ditton, Cambridge.

Death

HEDDEN—Of Dr. Richard Hedden on March 28th, 1929, at South Bank, Bideford, Devon, from pneumonia.

EDS. { O. P. / E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLIII — *15th June 1929* — *Number 1067*

PASSIM

LORD MELBOURNE, contemplating a fresh elevation to the Garter, is said to have professed a profound relief at the fortunate absence of any necessity to take into account what he impatiently termed "all this damned nonsense about merit." Faced to-day with the award of honours he would, no doubt, confess as honestly that merit among doctors showed clear enough to lighten rather than confuse his task.

If at this Hospital and elsewhere the name of Francis Shipway has long been held in high honour, the recent public recognition of his service to the King comes as a welcome confirmation to our private estimate of his undoubted worth, and we feel that his many friends and past pupils will wish to join us in an offer of the most sincere and hearty congratulations on the attainment of this notable milestone in a distinguished career.

Although an anæsthetist and respiratory physiologist of almost world-wide reputation, Dr. Shipway has remained the most approachable of men, a personal quality of inestimable benefit to those whose good fortune it has been to receive his tuition in a branch of medicine that is bound to form one of the main responsibilities of their ultimate practice. We anticipate a very full house in the Anatomical Theatre next Monday morning when Sir Francis Shipway delivers his first Lecture.

WE are also pleased to note that the services of another Guy's man who was among the physicians attending the King in his recent illness have been suitably recognised, Dr. F. D. Howitt having been awarded a C.V.O. in the last Honours List.

FROM America, that paradise of original ideas, has come yet another inspiration—a new use for the clergy. The fact that the suggestion emanates from a manufacturer of motor cars in no way detracts from its merit, as the manufacturer in question is no less a man than Mr. Henry Ford. Mr. Ford, it appears, has given considerable time and study to the question of dietetics, and has formulated an attractive theory that better bodies breed finer souls, and more particulary that the food we eat determines to a large extent the thoughts we think. So, Mr. Ford rationally pursues his theory, the church, instead of directing its eloquence towards improving the soul, should concentrate its endeavours upon the activities of the stomach. We confess that the idea of absorbing our faith through our gastric mucous membrane appeals to us. If we can become better and more upright members of a social community by eating a particular brand of porridge, then we will willingly consume the cereal in question—provided it is not too unpleasant and does not upset our digestive arrangements. And there lies the difficulty in this method of religious teaching. For a man in the throes of heartburn is not in the best position for appreciating the doctrines then being absorbed from his alimentary mucosa, nor does colic aid conviction. In short, the food must be as digestible as the faith before successful absorption of either can be ensured. We can foresee that some of the harder lessons of self-denial will be hurriedly swallowed in the form of sugar-coated pills and washed down by a refreshing draught of self-indulgence, while all but the hardiest will require their dose of ascetism to be administered as an intramuscular injection. When there rises before us the vision of slot machines which supply neat packets of moral teaching after 8 o'clock we confess that the field of speculation becomes too large for us to encompass within these pages.

We offer our heartiest congratulations to Mr. C. F. Cosin who was awarded a Distinction in Medicine at the recent M.B., B.S. examination of London University.

The record sum of £1,018 18*s.* 10*d.*, amassed by student collections during the first six months of the year, should set aside all argument as to whether the financial end may justify the undignified means, and we offer to those responsible our heartiest congratulations on the result of their endeavours. We know from our own bitter experience in the past how hard it can be, even with the aid of a red nose and a rugger shirt, to coax copper from a flag-ridden public; this year those boxes with bigger and better slots seem to have been shaken by as stout a crowd as ever went down to the station in shifts, and while the results are so good we feel that no one will mind a licence in costume and a certain crudity of method that might be a nuisance in any other connection.

The Athletic Team is to be heartily congratulated on winning the United Hospital Championship for the fourth successive year. The two Guy's representatives who were mainly responsible for this victory were G. R. C. Druce, who beat a 27 year old record for the high jump, and W. Hertzog who, after running in the 100 yards, won the long jump and shot-putting event and tied for first place in throwing the hammer.

It is in the natural order of things that men should leave Guy's when they have done their jobs to go to other spheres, but every now and then someone leaves a gap which is not easily filled. Such a gap has recently been made by the departure of E. T. Clifton to New Zealand. Clifton was Dr. Beddard's last H.P., and later became R.O. to Mr. Chapple, but, efficient as he undoubtedly was in these capacities, it was not his technical ability that made him the popular person he was. His tolerance, his generosity and his unfailing cheerfulness were but three of the characteristics which went to make up a personality which will be sorely missed in the Hospital and in the College. We wish him the very best of luck in his new life and sincerely hope he will return one day to visit us here.

Year after year we continue to buy a lost chance in the College Derby Sweepstake, and year after year our half-crowns make their way into the pockets of someone already far more plutocratic than ourselves—or so it seems to us. This year, however, the unpleasant monotony has been broken. Not that we have won any money ourselves—far from it—but we have had the satisfaction of watching our contribution go to the very deserving purse of the vendor of buns and tea in the Out-Patient Department. We now view this lucky personage with renewed interest and a devout incantation for bigger and better buns.

Obituary

Major-General CHARLES EDWARD POLLOCK, C.B., C.B.E., D.S.O.

CHARLES EDWARD POLLOCK was born in 1868. He was the son of Alexander Russell Pollock, J.P. for the county of Renfrew. He was educated at Wellington and entered Guy's Hospital in 1886 at a time when modern methods of treatment were still looked on with distrust by the older members of the Staff. There were on the Staff at the time Dr. Pavey, who always donned a velvet skull cap on entering the ward and who dictated his treatment in rapid Latin, unintelligible to all save the initiated, Mr. Jacobson and Mr. Howes, who used to operate in a frock coat soaked with blood, in which he had done post-mortems.

He passed Primary Fellowship, but never sat for the Final. He qualified M.R.C.S., L.R.C.P., and was Clinical Assistant and Obstetric Resident.

In 1892 he entered the Army Medical Staff. He saw active service on the North-West Frontier of India in the Tirah Expedition and in the Boer War.

In 1904 he went on behalf of the War Office to report on the treatment of venereal disease in France, Germany, Italy, Austria, Russia, Scandinavia and other countries. Later, he represented the War Office at various Medical Congresses on the Continent and at the Red Cross Conference at Washington in 1912.

In the War he was A.D.M.S., 15th Division, and D.D.M.S., IVth Corps. He was awarded the D.S.O. and was four times mentioned in despatches. In 1918 he received the C.B.E.

After the War he was in charge of the Political Section of the British Military Mission in Berlin, for which service he received the C.B.

He was promoted Major-General in 1922 and was made Deputy Director-General of the Army Medical Services and was Honorary Surgeon to the King.

He was obliged to retire in 1925 on account of ill-health.

He died suddenly on May 18th at his home in Northwood.

He married Winifred, daughter of C. E. Jay, Esq., and leaves a son and two daughters.

C. B. R. P.

Radium

A Clinical Lecture by E. G. Slesinger, Esq., O.B.E., M.S.

GENTLEMEN,—As you probably know, we are shortly to have a quantity of radium at Guy's, and that being so it seemed to me that it was worth our while to consider to-day some of the facts we know as to its properties and what we may expect of it in the treatment of cancer.

In 1896 Becquerel first discovered that salts of uranium could affect a photographic plate in the same way as sunlight, and, further, that they could cause the discharge of a gold leaf electroscope. Schmidt and Mme. Curie showed that the radio-active properties of the ore in which uranium occurred did not depend on the uranium itself, but on a highly active impurity. This impurity was shown by Professor and Mme. Curie to be radium, which was first isolated as a salt in 1903, *the radium itself not being isolated until 1911.*

This discovery of radium salts by furnishing a particularly intense source of radiation gave a great impetus to the study of radio-activity, and mainly owing to the work of Rutherford it was shown that the radiations could be divided into three groups, the penetrating power of which had the approximate ratio of 1 : 100 : 10,000. To these three groups Rutherford gave the names α, β and γ rays, and they differ entirely not only in their penetrating power but in their nature. It is necessary for us to know something of the nature of these radiations if we are to follow intelligently the clinical methods of using radium, and at the risk of telling you what you already know I will briefly consider each type in turn.

The α rays or particles are doubly positively charged helium atoms. The helium atom, as you know, consists of a nucleus containing four protons and two electrons in the neucleus, and having two orbital electrons, and, as such, is electrically neutral. With the removal of one or both of the orbital electrons it acquires a single or double positive electrical charge—that is what an α particle is. They should not be called rays. They are material particles. They are easily stopped by a sheet of paper or a few centimetres of air, they strongly affect photographic plates, have marked electrical properties and are able to cause fluorescence, especially in zinc sulphide.

These α particles are shot out by radium at an enormous speed, which is in the region of 12,000 miles per second ! When you remember that the initial velocity of a modern rifle bullet is about 2,000 feet per second it is easy to realise the prodigious power such an α particle for its size must have. It was by utilising this power that Rutherford was able to disrupt the nitrogen atom with the liberation of a hydrogen atom 10 years ago. The number of α particles emitted by radium is very large, and it is calculated that 1 gram of radium emits more than 37,000,000,000 α particles every second. α particles are very active chemically and among other substances attacked by them is water, which is split into hydrogen and oxygen. This is of importance if radium containing water, either of crystallisation or as moisture, is sealed in a tube, as the pressure of the gases may be enough to burst the tube or, at any rate, to scatter the radium when the tube is opened.

The second type of radiation from radium, or the β rays, are about 100 times more penetrating than the α particles. They, too, are not rays but material particles, and consist of electrons or atomic particles of negative electricity similar to those forming the cathode stream in an X-ray tube, but having a far greater velocity, which may, indeed, be very nearly that of light itself. These β particles are readily deflected by a magnet and have a marked effect on a photographic plate. Clinically, the β particles cause necrosis of the tissues in the vicinity of the focus of irradiation. The field of tissue destroyed never extends beyond 8 mm. from the centre of irradiation, but it is a non-selective action and destroys normal and malignant tissue in almost equal degrees. Consequently, it is of advantage for clinical purposes to use a screen to cut off these necrosing β particles, and various substances can be used for this purpose. In order to cut off 99.9 per cent. of the β particles of radium a thickness of 1.2 mm. of lead is required, 0.7 mm. of gold or 0.6 mm. of platinum. Platinum is the screen most commonly used in actual clinical practice where radium is to be implanted, the radium being contained in platinum needles, whose walls are some .6 mm. thick.

The third type of radiation, or the γ rays, are true rays, or electro-magnetic vibrations, and are of a similar character to X-rays. X-rays, as you know, are produced whenever an electron or β particle has its velocity altered, and just as X-rays of shorter wave lengths are produced the greater the velocity of the cathode stream becomes, so it is only to be expected that the γ rays of radium should have a far shorter wave length than the shortest X-ray yet produced when we remember how much greater is the velocity of the β particles of radium than those in the cathode stream from

an X-ray tube. The γ rays are of varying wave lengths, but it is those of shortest wave length or, as they are often called, the hardest, which are of most value clinically. The γ rays are of enormous penetrating power and are not completely absorbed by 19 cm. of lead. The platinum screenage used to cut off the injurious β rays only cuts off the γ rays of longest wave length—a platinum screen of .5 mm., for example, only cutting off some 6 per cent. of the γ rays. Briefly, then, it is only the γ rays which are utilised in the clinical application of radium and the term gamma ray therapy is sometimes used as a synonym for radium treatment.

Now, as a result of the emission of α particles by radium this substance itself undergoes a change, and the first product of its disintegration is radium emanation or radon. This is a heavy radio-active gas belonging to the helium argon group, so that what really happens is that radium spontaneously decomposes into two gases—helium or α particles and radon or radium emanation. This radium emanation or radon is itself radio-active, giving off α particles and becoming changed into radium A. This in turn, by the emission of α particles, becomes radium B; this becomes radium C, and so on until radium G or lead is reached, when this radio-active series comes to an end.

These changes, however, do not go on at equal rates, and the rate of decomposition of each of these substances has considerable importance for us as clinicians. Radium itself is the most stable of the series, and it requires 1,580 years for one half of the atoms of radium to decompose into helium and radon. This time, which is taken for one-half of the atoms of a radio-active substance to change into the next one of the series, is called the "half period," and, as we have seen, the "half period" of radium is 1,580 years. Radon or radium emanation has a half period of 3.85 days, in striking contrast to that of radium itself. Radium A has a half period of 3.05 minutes, radium B 26.8 minutes and radium C 19.6 minutes. Radium C really consists of two members—radium C^1 and C'.

Radium C^1 has a half period of 19.6 minutes, and by giving off electrons becomes charged into radium C', which only exists for one millioneth part of a second before changing into radium D. Radium D has a half period of 16 years, and the remaining members of the series are also of slow change.

Now, so far, we have only spoken of α particles as the radiation from this series of substances, and it is not until we reach radium B that we find β and γ rays being emitted. These two, of course, go together, since it is a change in the velocity of a β particle that produces a γ ray. Radium B and radium C both give off β and γ rays, and it is really of radium B and C therapy that we speak when we talk of radium therapy. It is probable that uranium, with which radium is always found in nature, is the first member of this series of which lead is the last.

When radium is placed in a closed chamber it gives off radon gas or radium emanation at a definite rate. At the end of a period of about a month the maximum amount of radon has been produced; that is to say, a condition is reached in which as much radon is being destroyed as is being produced, and the radium and the radon are then said to be in equilibrium. The quantity of emanation in equilibrium with 1 gram of radium is termed the "curie," and the therapeutic unit is the millicurie.

The unit that is used in regard to dosage is either the milligram-hour or the millicurie. A milligram-hour is the quantity of radiation given off by 1 mg. of radium element in one hour.

One millicurie of emanation destroyed=132.38 mg. hours, and 1 mg. hour equals 0.00755 millicuries.

For therapeutic purposes either radium in the form of radium sulphate or radon is used. Radon is prepared by exposing radium bromide in solution to a vacuum and passing the radon over various substances to ensure its freedom from impurities. It is then enclosed in a capillary glass tube, which is placed in a minute platinum case.

These cases are termed seeds, and those prepared by the Radium Institute are 6 mm. long and have a wall of 0.5 mm. of platinum, and contain 1.8 or 1.2 millicuries of radon. When radium itself is used it is used in the form of radium sulphate, as the pure radium cannot be conserved without alteration. It is usual to express the strength of a container in terms of radium element, thus the radium content of 1.0 mg. of radium sulphate is 0.7 mg. of radium element.

The methods of irradiation employed clinically are four—namely, the cavitary method, interstitial radiation, surface application and distance irradiation. The cavitary method consists in introducing the radium through the natural opening in cases of oral, rectal and vaginal cancer. It has the advantage of simplicity, but has been almost entirely abandoned owing to the difficulty of obtaining an even irradiation of the growth.

The interstitial method is the one of most interest to us at present, as, in view of the comparatively small amount of radium which we at Guy's are about to obtain, it will probably be the method most frequently employed. In this

method either radium sulphate contained in platinum needles or radon seeds are inserted in and around the growth in such a manner as to provide an even irradiation.

It may be well at this point to consider some of the facts which decide the selection of radium sulphate or of radon as the substance to be used in treatment. The chief advantage of using radium is the constancy of the dose, a factor of great importance, especially in the more modern methods of irradiation over a considerable period of time, as we shall see later. The main disadvantages are (1) that being put up in containers in definite amounts it is difficult to vary the dose, (2) there is a risk of losing the radium, (3) the containers must be removed at the end of treatment. On the other hand, the chief advantages of using radon are (1) the ease with which the dose can be varied, (2) the fact that the radon seeds can be left in the patient and if necessary can be used on out-patients. The disadvantages of radon are (1) that an important quantity of radium, at least .5 grm., must be utilised for its preparation, (2) it rapidly deteriorates, so that accurate measurement of dose requires considerable care and technical skill, (3) because of its alteration in activity it is impossible to obtain an even radiation over a period of time.

While it is probable that both methods have their uses, it would seem that where the limited amount of radium precludes the use of both methods radium itself is probably of greater utility in view of the constancy of dose obtained.

Where radium sulphate is to be used by the interstitial method it is put up in platinum containers termed needles.

These needles are hollow in the centre and have a cap at either end, one of which is pointed and the other has an eye for the attachment of a retaining suture. They are of varying lengths, and the portion containing radium is referred to as the "active length." The radium contained in each needle varies in amount from as little as .5 mg. to as much as 10 mgs. or more. In order that the radium sulphate may be evenly distributed throughout the needle it is mixed with enough of an inert substance to fill the cavity of the needle—the inert substance usually employed being freshly calcined magnesium oxide. The screenage used varies, the average thickness of platinum in the wall of the needle being .6 mm., which cuts off the β rays and the softer or longer wave length γ rays.

The third method of using radium is by surface application, by which is meant the application of radium at a short distance from the skin. The older method of applying radium directly on the skin has been given up owing to the reaction it caused in the skin. The method now used is based upon the work of Regaud in Paris, the differences in method being mainly a matter of the distance from the skin at which the radium is applied. It is important to keep to a fixed distance, so that details of dosage can be worked out on parallel series of cases. The distance used at the Westminster Hospital, for example, by Cade and his colleagues is 15 mm., and the method of maintaining the distance is by means of supports made of a substance known as Columbia paste of uniform thickness. This Columbia paste is made of beeswax, paraffin and sawdust, and is cast into slabs of a thickness of 15 mm. By warming it, it can be moulded accurately to various parts of the body as desired; it is light and does not give rise to secondary radiations. When such a Columbia paste plaque has been made to fit the area it is desired to irradiate, the radium is applied to the outer surface of the plaque in the form of needles. It is well to use as many needles as possible so as to distribute the amount to be used evenly, and lead sheeting 1 mm. thick can be so incorporated in the plaque as to protect normal parts of the body from the rays.

The fourth method, known as distance irradiation, requires large amounts of radium, and for that reason has so far been very little used in this country. The apparatus employed is known as a radium bomb or a radium cannon, and quantities of 4 grams or more of radium are used in it. The radium is contained in a lead lined box with a window, through which the rays are directed on to the patient, or, by means of two windows, two patients can be treated at once. A distance from the skin of 10 cm. or more is used and multiple ports of entry are employed as in deep X-ray therapy in order to minimise damage to the skin. A special room is required for treatment, and at the present time economic factors prevent great use being made of this mode of treatment; nevertheless, it offers perhaps the greatest possibilities for the future, since far bigger doses can be given without damage to normal tissues than by any other method.

These, then, are the methods of application at present in use, but a question of even greater importance in modern radium treatment is the time factor. It is found that the biological effect of radium differs not only with the distance from the surface at which it is applied, but also with the time over which it acts. For example, 200 mgs. applied for 5 hours represents the same dose in milligram-hours as 25 mgs. applied for 40 hours, but the biological effect is quite different.

Regaud and Lacassagne succeeded in obtaining sterilisation of a ram's testes by prolonged irradiation with small doses, although they failed to do so with three times the dose for a shorter period. This work and the observation that cells are more susceptible to γ rays at the period of their mitosis is mainly responsible for the modern improvement in the results of radium therapy. Dominici had shown in 1907 that cells are more sensitive to irradiation the nearer they approach to the embryonic state, and it had become common knowledge that organs in which mitosis is active, such as the skin and the testes, are more susceptible to γ rays than more stable tissues.

From these facts was developed the present day technique in which small doses of radium are allowed to act over long periods—in the interstitial method 7 to 10 days is the period used, so that every cell shall be exposed to radiation during its period of mitosis. The use of this method of prolonged irradiation with small doses has produced results in the hands of the workers at the Manchester Radium Institute and at Westminster and St. Bartholomew's Hospitals which holds a promise greater than any yet given by the knife in certain types of cancer of certain organs. Nevertheless, it is important to bear in mind that at present it is only cancer in certain situations and of certain types that responds successfully to radium treatment, and, further, that the time that has elapsed is still too short to enable us to speak in terms of cure. There is a danger in the publicity that the radium campaign has received that the public may be led to expect more from radium than its exponents yet have to offer, and that older and less attractive methods of dealing with malignant disease may be unduly postponed in an attempt to try the newer and less to be dreaded treatment. Provided we keep that caution well in mind, however, no one who has seen anything of the results of recent methods of radium treatment can fail to be thrilled at what seems at long last to be a real method of attack and one which carries with it little if any of the dreadful price which patients sometimes have to pay in mutilation and distress for the chances which surgery alone so far has had to offer.

Of the actual mode of action of γ rays on malignant cells or on the tissues of the body generally not very much is known in spite of the extensive and valuable researches that have been conducted into the matter.

As I have pointed out above, there seems little doubt that cells during this period of mitosis are more sensitive to irradiation than at other periods, and Bergonié and Tribondeau have formulated a law to the effect that the sensitivity of cells to irradiation is in direct proportion to the reproductive activity of the cells.

The first known effect of radium on the tissues was its destructive effect, which was originally accidentally demonstrated by Becquerel in 1900, who carried an unprotected tube of radium in his waistcoat pocket for some hours and had a week later an area of redness on the abdominal wall which progressed and ulcerated.

Regaud subdivides the destructive action of radium into its cytocaustic action and its cytolethal action. The first of these is an action producing necrosis of all tissues without distinction, and is due to the action of soft or feebly penetrating rays, and can therefore be avoided by suitable screenage. The second or cytolethal action is the action of the hard or more penetrating rays—that is, those of shortest wave length. It affects certain cells only, while others are immune, and is not limited to the surface, but extends deeply into the tissues, and it is this type of action that is utilised in the treatment of cancer.

Malignant tumours being characterised by the rapid division of their constituent cells respond more readily to irradiation than normal cells, and from the work of Canti and Donaldson in England and Lacassagne and Monod in France the response has been shown to be primarily an arrest of mitosis.

Canti's cinema film of the effect of radium on tissue cultures shows this in a remarkable manner. It is a film which I strongly advise you to see if you ever have the opportunity, since Hollywood could never thrill your imagination more than does the sight of the chromosomes arrested in the midst of their division by exposure to radium.

This arrest of mitosis is followed by the reappearance of irregular forms of division for a time. Finally, these too disappear and the cell disintegrates. It is the object of radium therapy, of course, to administer such a lethal dose to every cell of the growth, and from that arises the importance of homogeneous irradiation of the tumour by means of multiple small foci of radiation spaced at suitable intervals and the continuance of radiation at an even rate for a sufficient time. In that factor lies most of the advantage of radium over emanation or radon, in that with the latter its rapid deterioration makes the later stages of irradiation deficient in intensity.

In the treatment of patients, however, it is not only the action of the rays on the cells of the growth that is of importance, but also the effect on the surrounding stroma, and Cade has pointed out that the condition of the stroma, for example, in cancer of the tongue determines in considerable measure the prognosis of a given case to radium

treatment. Roussy divides the reaction of the stroma into three types. The efficient reaction where the blood vessels are normal and the appearance of plasma cells and fibroblasts leads to fibrosis.

Secondly, the deficient reaction where there is œdema of the stroma and abnormally thin walled blood vessels, and, thirdly, the indifferent reaction where there is a mixture of the two. Clinically, the presence or appearance of œdema in the stroma may be taken as a bad prognostic sign.

The question of whether these effects of γ rays on cells is a direct action or an indirect one resulting from the production in the plasma of toxic substances is one which at present remains unsettled. Regaud holds the latter view, and if he is right the possibility of the combination of chemical methods with irradiation holds out attractive opportunities for research. An important fact to remember is that between the time at which the tissues are exposed to radiation and the appearance of visible changes in them a considerable period of time may elapse. This is of importance in that skin which has been previously irradiated may ulcerate from apparently trivial causes even years afterwards.

The effect of radiation on the skin in general is of great importance, because in methods other than the interstitial it is the determining factor as to the dose that can be given from any one direction.

The action of γ rays on the skin depends on the dosage, and two types of reaction are recognised—the "erythema dose" and the "peeling dose." When an erythema dose has been administered the irradiated area becomes red after a period of some 4 days and the patient complains of heat and irritation. This is usually followed by pigmentation and loss of hair. It is found in practice, however, that an erythema dose is usually insufficient in cases of malignant disease and that a larger dose still, the "peeling dose," can be given with safety.

This reaction Regaud terms acute selective radio-dermatitis, and it is marked by a change in colour to a deep red or purple. On the tenth day blisters appear and are followed by peeling, which is usually complete in 15 days, leaving a moist purplish-grey surface covered by patches of fibrin. Such a peeled area heals rapidly and in order to produce this reaction safely all the β rays must be cut off by screenage and irradiation must be given slowly at a minimum distance of 15 mm.

The third type of skin reaction to radium is the radium burn, which must, of course, be carefully prevented. It is an actual necrosis of tissue due usually to too rapid irradiation with insufficiently screened radium. It represents β ray action or possibly partly the action of soft γ rays, and can be—and should be—prevented by adequate screenage of the radium. Nevertheless, it is liable to occur accidentally and the resulting slough is remarkably slow in healing, very many months passing before such a radium burn can be got to heal.

While very striking success has followed the use of radium therapy in certain types of growth in certain situations, I want you to realise that at present the matter is still in the stage of active progress and experiment, and while in certain regions a technique has been arrived at which appears to be satisfactory in others treatment with radium is still tentative only.

The regions where the greatest success has been obtained are in the tongue and mouth cases, in cancer of the cervix, and in cancer of the larynx. The rectum, the breast and the brain are other parts where the results I have been shown have been most impressive, and if you wish to see the regions in which radium treatment has been tried and the details of the methods used, you cannot do better than read Cade's recent book on the subject.

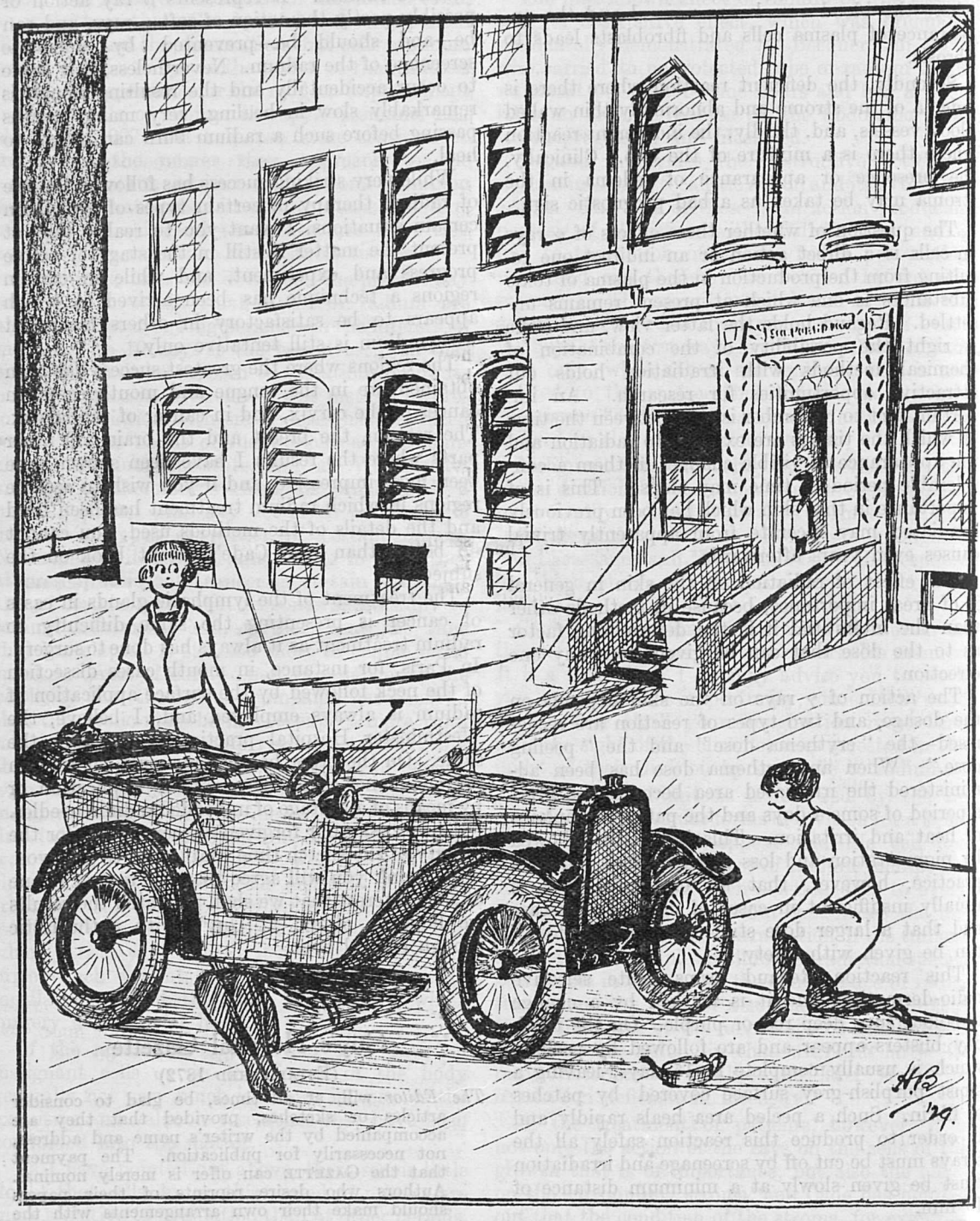
The treatment of the lymphatic glands in cases of cancer is presenting the same difficulty to radium treatment as it always has done to surgery. In Paris, for instance, in mouth cases dissection of the neck followed by the surface application of radium is always employed and, I believe, the Westminster Hospital practice is generally the same. On the other hand, some surgeons rely on radium alone, either as a surface application or by means of a barrage of imbedded radium needles.

I must ask your forgiveness, gentlemen, for the brevity of the sketch time enables me to give you, but I think you will agree that the matter is one of such interest that we shall all watch the results we hope to obtain at Guy's with enthusiastic though critical eyes.

Guy's Hospital Gazette

(ESTABLISHED 1872)

The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.



Infant Welfare,

Anaphylaxis

The Treasurer's Prize Essay for 1928. Read before the Physical Society. By J. J. Chamberlain

Concluded.

PART III

THE TREATMENT OF ALLERGIC DISEASES

IN a recent paper Professor Hansen[36] stated that the identification of a disease as allergic depended on six factors, none of which alone were infallible, but the correlation of several or all gave a high probability to correct diagnosis. They are :—

(*a*) The exact history ;
(*b*) The positive result of the cutaneous reaction ;
(*c*) The passive transferability of the cutaneous reaction to healthy persons through the serum of the sensitised person ;
(*d*) The proof of the existence of specific allergens in the patient's environment ;
(*e*) The exposure experiment ;
(*f*) The disappearance of symptoms after the removal of allergens from the neighbourhood of the patient.

While it is not possible to discuss all these factors, I hope to show by a summary of the general treatment of allergic disease that further evidence is here obtained to support the contention that such diseases have an anaphylactic basis. If such a contention is justified, then treatment on such specific basis as we are at present able to formulate should produce beneficial results, always recognising that such treatment is at present hampered by lack of a vast amount of experimental data, and that in considering results this fact must always be remembered.

It will not be possible to indicate the exact line of treatment in each particular allergic condition, but rather to point out the more important preventive, dietetic and therapeutic measures which may be used.

SERUM SICKNESS

Now that the use of serum in prophylactic and therapeutic treatment is becoming so extensive, symptoms of serum sickness and minor degrees of anaphylactic shock are by no means so uncommon as we are led to believe.

The treatment of the condition lies mainly in prevention ; it cannot be prevented if large doses of serum are given intravenously without careful precautionary measures. As von Pirquet and Schick pointed out, the larger the dose of serum administered the more likely and the more severe will the appearance of the symptoms be.

Before using an injection of prophylactic serum it is necessary to inquire into the patient's history —whether there has been a previous injection, if any particular hypersensitiveness has been noticed, or if attacks of asthma, urticaria, etc., have ever occurred.

If the case is suspect and is not urgent a preliminary intra-cutaneous or cutaneous test should be made, using .01 c.c. of serum ; if a wheal results some such desensitising method as that recommended by Mackenzie should be used.

METHOD OF DESENSITISATION

The first dose should be .025 c.c. given subcutaneously. This should be doubled every half hour until 1 c.c. has been given ; then 1 c.c. may be given intravenously, being doubled every 20 minutes until 25 c.c. have been given. Four hours later 50 c.c. may be given, and after 8 hours larger doses still, and in this way the adequate prophylactic or therapeutic quantity of serum may be administered.

Some authors suggest that ox antidiphtheritic serum should be used for desensitisation, so that if at a later date diphtheria does develop, horse antidiphtheritic serum can be used ; others advocate the use of giving intravenously diluted antigenic serum, in doses which would otherwise be fatal.

Besredka, who has done a vast amount of experimental work on the subject, points out that in such a disease as cerebro-spinal meningitis, for instance, in which symptoms of anaphylactic shock are not uncommon, and the treatment holds for other conditions as well, there are three methods of treatment, depending on the state of the patient and the necessity for rapid intervention.

(*a*) *Subcutaneous Method*—

This is useful where the case is not particularly urgent, and takes about four hours to produce desensitisation (immunity) The first subcutaneous injection dose varies between .5 and 5 c.c. of serum, and it must be noted that the smaller the initial dose the less likely are unpleasant complications to arise ; after the lapse of about four hours the whole of the intended dose, about 30 c.c. may be injected.

The method is slow and is dangerous unless preceded by a cutaneous test ; it is generally used in combination with one of the other methods.

(*b*) *Intraspinal Method*—

This method is indicated in cerebro-spinal meningitis and produces desensitisation in about two hours.

The first intrathecal injection should not be more than 1 c.c. of serum; a period of an hour should then elapse. If slight symptoms of anaphylaxis occur the period should be lengthened until these have completely ceased, and then 20–40 c.c. of serum "may be injected into the spinal cavity with impunity."

(c) *Intravenous Method—*

This is the most desirable method; it is rapid, producing desensitisation in about 15 minutes, and protects against local as well as general anaphylaxis. Also it permits one to observe, with the needle in the vein, the exact amount of sensitiveness exhibited by the patient.

A Safe Method of Intravenous Therapy is as follows—

First dilute the serum to 10 times its volume with physiological saline solution, then inject 1 c.c. of dilute serum intravenously and, keeping the needle in position, note if there is any reaction. If at the end of five minutes no symptoms have appeared, a second injection of 3 c.c. of dilute serum is given; if, after a further two minutes, there are no symptoms, 10 c.c. may be given. From this time onwards, it is stated, desensitisation is acquired, but to make quite certain, after a further lapse of two minutes, a last injection of 25 c.c. of dilute serum is given. The patient will now be able to tolerate at any stage of the illness the therapeutic dose of serum.

The figures given in the description of the above method are, of course, only approximate, as it is apparent that the sensitiveness of different individuals varies tremendously; it is, however, always wise to start with the smallest desirable dose and then, as indicated, to inject as much antigen as possible without producing anaphylactic symptoms. The optimum dose is that which produces a state of anxiety and a flushing of the face lasting for some minutes; this is termed the "precritical dose." These methods, originally advocated by Besredka, are founded on animal experiments, and certain investigators, notably Duke, objected to them as originally described.

Duke inferred that the methods, while no doubt excellent for guinea-pigs which had been artificially sensitised, had great disadvantages when applied to man, for two reasons mainly. First, the degree of sensitiveness in the human is much greater, so that the initial dose—as advocated by Besredka—might prove fatal, and, secondly, the process of desensitisation is much more difficult to bring about and takes place much more slowly in human beings.

Nevertheless, from the original methods others varying in different degrees have evolved, and are of undoubted practical value in the desensitisation of patients before the administration of serum.

The mechanism of human desensitisation is two-fold—first, the small dose of antigen frees the tissue cells of antibody, and, secondly, by the continuation of the injections at suitable intervals, induces an excess of circulating protective antibody, producing a condition of immunity.

DIAGNOSTIC CLINICAL TESTS IN ALLERGY

There are several specific clinical tests which are of help in diagnosis and dependable when a positive result is obtained; they are by no means, however, infallible, and should be used as aids to diagnosis rather than as crucial proof.

SKIN REACTIONS

These have of recent years come to occupy a prominent position in the literature on the subject, mainly due to the work of Walker and Cooke.

Cutaneous reactions are based on what is known as the "Arthus Phenomenon." Arthus[38] showed that if a rabbit receives 5 c.c. of horse serum subcutaneously for six days, after the first three injections there is no reaction at the site of injection, but after the fourth injection a local reaction occurs with redness and swelling. After further injections a more severe reaction results, and may even produce local gangrene. The animal is sensitised by the early injections and the sensitisation becomes greater and the resulting reaction is more severe.

There are two methods of applying skin reactions, by scarification or by intradermal injections, and it is stated that cutaneous—scarification—tests give best results in young people and frequently fail in elderly adults and in cases due to food sensitisation; in these cases the intracutaneous tests give better and more convincing results.

With the technique and interpretation of the various types of reaction we are not here concerned; the value of the tests is, however, of some importance.

The substances used for testing are extracts of foods, feathers, dandruff, hair, pollen, etc. They may be made up into a paste and used dry, or in solution in slightly alkaline distilled water. They are assumed to be proteid in nature, but are not pure proteins, and the general assumption that the active substances are proteins has never been proved, hence no standardisation is possible, except that the extracts should not give positive reactions in normal subjects.

Now, the allergic subject is frequently sensitive to more than one substance, and in some cases is sensitive to a number of quite different substances, and therefore, while occasionally a positive skin reaction does indicate a specific sensitiveness,

generally speaking, they diagnose a supersensitive skin or allergic condition. They have been used with the greatest success in cases of asthma and hay fever.

Recently Van Leeuwen has discovered that practically all allergies give a positive reaction to human dandruff.

OPHTHALMIC AND NASAL TESTS

These tests are held to be slightly more specific than cutaneous ones, and are of use in isolating types of pollen and other air-borne substances held responsible for asthma and hay fever.

A 1 : 1000 solution of extract is used, in one case being sprayed into the conjunctival sac and in the other into the nose.

A positive reaction is obtained when, in the case of the ophthalmic reaction, redness and lachrymation persist for five minutes, and in the nasal reaction, sneezing, swelling of mucous membrane and secretion of a watery fluid which persists for several minutes.

Nasal Inhalation Tests are described as of use in distinguishing between sensitiveness, due to such different substances as animal hair, feathers, emanations from vegetable matter, furs, perfume, smoke, turpentine, etc., the causation of sneezing and similar symptoms resembling those of hay fever indicating a positive reaction.

Subcutaneous Tests—These should only be used to establish a diagnosis after other diagnostic tests have been used, and even then in the smallest doses possible, as severe constitutional disturbances are apt to occur. It is doubtful if it is ever necessary to use subcutaneous tests according to Duke.

Widal's Cerise Hæmoclasique—

About the same time as cutaneous tests were first being applied, Widal elaborated another method which depended under certain conditions of a "rupture" of the equilibrium of the blood, resulting in :—

(*a*) Fall in blood pressure ;
(*b*) Fall in leucocyte count ;
(*c*) Change in index of refraction of the blood ;
(*d*) Delayed clotting time.

These phenomena are brought about by the administration of substances to which an animal or person is sensitive ; thus, the inhalation of pollen by a subject of hay fever or a dose of quinine to a person exhibiting an idiosyncrasy to that particular drug. Frequently, normal persons exhibit the symptoms of the "cerise hæmoclasique" when injected with a foreign material ; if, however, in the case of the normal control the test is negative, then a positive in a suspected subject does indicate an allergic condition.

SPECIFIC TREATMENT

All methods of specific treatment of allergic disease are based on the principle that the injection of a very small quantity of the allergen may prevent the outbreak of attacks caused by that allergen.

Given that the antigen has been isolated and its particular sensitising property confirmed by cutaneous tests, by using this form of treatment two conditions may be reproduced—desensitisation and immunity.

SPECIFIC DESENSITISATION

Theoretically, as has been shown in the case of the hypersensitive guinea-pig's uterus, desensitisation consists in injecting just sufficient antigen to use up the reactivity of the cells—*i.e.*, to react with the contained antibody. In isolated pieces of sensitive guinea-pig's muscle this amount can be estimated with some accuracy, and the animal as a whole can be desensitised by using graduated doses, although even here, in dealing with the animal as a whole, the method is not so exact.

It must be remembered that if excess of antigen is introduced the excess remaining after the reaction will merely serve to resensitise the animal.

When the method is applied to man, however, as Dowling points out, we have to take cognisance of three unknown factors :—

(*a*) Degree of patient's sensitivity ;
(*b*) The exact nature of the antigen ;
(*c*) The quantity of antigen in the extractive to be used.

Despite the lack of precise knowledge, however, the method can be applied to sufferers from allergic diseases with some benefit ; especially is this so in the case of hay fever subjects.

Having made a decoction of the antigen it is necessary to know with some approximation the strength of the solution as regards the quantity of contained antigen. This is found by making intracutaneous tests with varying dilutions of the decoction, and that dilution which just fails to produce a positive intracutaneous test may be used as the initial dose.

The injections are given subcutaneously every second or third day, and the aim of the physician is to prevent a reaction ; eventually it will be found that the patient is totally desensitised, as shown by a negative intradermal test. In many cases the patient is, after desensitisation, able to tolerate a dose a hundred times the initial strength without any disturbance.

The period of treatment varies, of course, in different patients, from two weeks to a year, and in all cases, even when the symptoms have totally disappeared, the injections should be continued,

at first once a week then once a fortnight, and, finally, once a month for a period of a year.

In cases of hay fever, desensitisation is commenced a few months before the pollen season, and as a result of treatment many patients are so effectively desensitised that they are able to go through the whole of the summer without an attack. Resensitisation, however, occurs, and the course of treatment should be repeated each year.

SPECIFIC IMMUNITY

Some physicians, by using a large initial dose and producing a reaction in the early stage of treatment, and then proceeding to administer large doses at short intervals without producing a reaction, aim at securing a state of immunity.

The idea is that although the body cells still contain antibodies, there is sufficient excess of circulating antibody to deal with any foreign antigen that may gain entrance to the blood stream.

The method is very useful where the specific antigen has been isolated, and good results are obtained. There are, however, certain disadvantages. In the early stages it is quite possible to resensitise a patient by the excess of injection which is supposed to desensitise him; also immunity is only temporary, and therapeutic injections will have to be given every season or at such intervals as symptoms and history may dictate.

NON-SPECIFIC THERAPY

Frequently, even when it is possible to isolate a specific allergen, the treatment results in only partial desensitisation; then, in these cases and the large number of cases in which it is impossible to indicate a specific allergen, we have to use a non-specific method of therapy.

The theory of the method may be explained by referring to experimental animal anaphylaxis. It has been shown that if an animal be rendered anaphylactic to more than one protein, say two, and then be made to react to one of them its reactivity will be used up, not only to that particular protein, but to the other also.

In this therapeutic method use is made of some substance to which the patient is sensitive, not necessarily the offending antigen. Some physicians use tuberculin, others a decoction of pollen, and yet others an extract of feathers, which latter substance is said to be beneficial in cases of asthma and prurigo.

These substances are harmless to the normal individual, but this treatment makes use of other substances which, if administered in sufficient quantity, produces a reaction in all people; such substances are peptone, whole blood, milk, sulphur and certain bacterial vaccines.

It is to be noted that these substances are used in the treatment of types of diseases at present quite unconnected with allergy, such as influenzal pneumonia, arthritis and streptococcal infections, but how far the symptoms of these diseases are due to sensitisation by bacterial proteins, apart from toxic effect, it is almost impossible to say.

PEPTONE THERAPY

Intravenous peptone therapy has been used extensively in the treatment of disease, and a great deal of interesting experimental observations, to which we are unable to pay due consideration here, have been carried out on peptone shock.

Schmidt and Mulheim in 1880 were the first to observe the effects of injecting digestive products such as peptone into the circulation, but later it was proved that the toxic effects they had observed were due to using impure proteins, which contained a certain amount of proteose.

Numerous observers have emphasised the striking similarity between the symptoms of protein and anaphylactic shock, and have pointed out that both lead to an abnormally rapid autodigestion of tissue protein.

Two types of peptone are in general use—Armours No. 2 (5 per cent.) and Wittes (2 per cent.). Each contains a certain proportion of proteoses and albumoses; pure peptone has very little toxic effect.

Auld in 1917 was the first to use peptone injections in the treatment of bronchial asthma, giving intravenous and intramuscular injections and claiming to obtain good results. One general method of technique as carried out by Van Leeuwen is to use as an initial dose .1 c.c. of a 5 per cent. solution of Wittes peptone in physiological saline. The doses are given daily, increasing from the initial dose up to 5 c.c.; the smaller doses may be given subcutaneously and the larger intravenously; the injections should be given slowly and the patient very carefully watched, for the pulse may rise quickly to 140, in which case the injection should be stopped. Patients may also complain of giddiness, abdominal pains and a peculiar tickling sensation in the throat.

Peptone therapy has been used in the treatment of asthma and chronic inflammatory diseases of various kinds, particularly rheumatoid arthritis. It may also be administered orally in doses of from 4–8 grains before each meal for the treatment of such conditions as urticaria and allergic disease in which alimentary factors are held responsible.

The treatments may have to be carried on over a period of two to three months, but usually if no improvement in symptoms occurs in the first

few days it will not be of much use. In some conditions improvement is marked, but may be only temporary, and on the whole further observations are necessary before the value of the treatment as a general therapeutic measure can be estimated with any degree of accuracy.

MILK THERAPY

Cranston Low and other observers report encouraging results from the treatment of asthma and certain skin conditions by the intramuscular injection of sterilised milk. The milk should be fresh and should be used early before many bacteria have had time to multiply in it. The initial injection should be, according to different observers, from .1 c.c. to 2.5 c.c., and the injections should be given twice weekly, into each buttock alternately, the dose being increased gradually to 10 c.c. The injections produce a form of shock, with rise in temperature and marked leucocytosis. Improvement should occur in a few days; this treatment is very useful in helping to tide asthmatics over difficult periods.

AUTO-HÆMO-THERAPY

This method of treatment has been used very extensively in France for various chronic skin conditions, including urticaria, Besnier's prurigo and prurigo asthma, and good results are claimed for it. Doses of from 2–10 c.c. of whole blood are taken from a vein and immediately injected intramuscularly into the buttock.

AUTO-SERA AND HETRO-SERO-THERAPY

The injection of autoserum or hetroserum, after defibrination, has been used extensively in the treatment of many skin conditions, including some thought to be allergic in nature; the exact mode of action is unknown. About 100 c.c. of blood are withdrawn from a vein, centrifuged and the serum drawn off and injected into the vein of the opposite limb; the serum is usually about 45 per cent. of the volume of blood withdrawn. The injections should be given on about six occasions at intervals of about five days.

Some observers suggest that the blood should be withdrawn just before, during or after an attack of the disease, when there will be a maximum amount of circulating antibody.

TUBERCULIN TREATMENT

Nearly all allergies exhibit a hypersensitiveness to tuberculin, and although as far back as 1897 Bussenius recorded the fact that after treatment with tuberculin a patient of his who suffered from tuberculosis and asthma ceased to have asthmatic attacks, it is only in recent years that regular tuberculin treatment has been a standard method of anti-allergic therapy.

The following is a brief outline of the method adopted by Van Leeuwen, who has had most encouraging results, claiming that in a series of 300 cases of asthma 50 per cent. were completely or almost completely cured, while about 30 per cent. were distinctly or considerably improved.

It is first essential by careful examination to exclude any active tuberculous disease, and in all cases before treatment is commenced a Von Pirquet skin test should be performed. All injections are given subcutaneously, using Koch's T.O.A. If the Von Pirquet skin reaction is strongly positive the initial dose should be 1 : 10,000,000 strength; if the reaction is moderate and there is no danger of tuberculous disease 1 : 1,000,000, while if the skin reaction is negative the first dose may be 1 : 100,000.

The injections are given twice a week, each dose being increased by .1 c.c. until:—

(*a*) The symptoms of allergy have disappeared;
(*b*) A strong local reaction occurs;
(*c*) A general reaction appears.

When either the symptoms have gone or one of the reactions appears treatment is continued, but the dose is kept at a fixed quantity.

Treatment may have to be continued for a year and sometimes longer. Under these circumstances the injections are at first given twice a week, then once a week and, later, once a fortnight. In some cases after the cessation of treatment the symptoms appear again in a few weeks and must be treated by further therapy.

VACCINE THERAPY

In some skin conditions of doubtful allergic origin, intravenous injection of non-specific bacterial emulsions have been used as an aid in treatment. For instance, typhoid vaccine, mixed bacillus coli vaccine and cholera vaccine have been used; the improvement which appears to have occurred amounts to a temporary desensitisation, thus allowing other local treatment to be more effective. On the whole, the method is of doubtful value.

SYMPTOMATIC TREATMENT

Adrenalin and atropine are the most useful symptomatic remedies. They are most striking in effect when used as temporary measures, but they may be used as an aid to treatment in conjunction with more lasting methods.

Adrenalin—

This drug is consistent in effect on nearly all types of reaction; it may be used locally or subcutaneously. The aim of the physician should be always to use the smallest possible dose which has the desired clinical effect, for it must be remembered that tolerance varies in the same person at

different times. The drug is most useful in asthma, in which condition it may be administered subcutaneously in .5 c.c. doses of 1 : 1000 solution at five minute intervals, until relief or tremor is obtained.

It may in chronic cases be used for years without any ill effects being apparent.

Atropine—

For many years this drug has been used in the treatment of asthma; it may be used locally, subcutaneously or by inhalation. It should be administered until dryness of the mouth is caused; some people can tolerate 1/100 gr. three times daily, others will need much less than this amount. It may be used in conjunction with adrenalin to advantage in many cases.

DIETETIC TREATMENT

Despite the fact that it is so frequently neglected, there can be little doubt of the importance of this line of treatment, especially in certain of the conditions under consideration—for instance, one type of asthma, infantile eczema and papular urticaria.

Van Leeuwen found that many of his asthmatic cases responded to treatment on a purine-free diet, while others could not tolerate dairy products, and therefore were allowed small quantities of meat and fish in order to keep up the protein intake. He describes a nutritive form of bronchial asthma which, in his experience, accounted for 10 per cent. of all asthmatics. The type is characterised by continuous slight symptoms, with more or less frequent exacerbations of the disease. He recommends that in treating this type all food should be withheld for 24 hours, and if there is an amelioration of the symptoms for a further 24 hours, the patient should then have at frequent intervals, and in small quantities, a diet consisting of cooked rice and tea. After having this simple diet for a few days other foods may be added and their effect on the patient noted, any having a deleterious effect being permanently withheld. By this method a few cases may be cured. It is interesting to note that a patient's tolerance to different foodstuffs may vary at different times and in different places.

As a result of their observations, Barber and Oriel came to the conclusion that the clue to the dietetic treatment of certain allergic conditions lies in a consideration of the functions of the liver in dealing with proteins and their derivatives. They point out that it is known that the liver is capable of fixing albuminous substances in its parenchyma, and that if this function be experimentally interfered with shock results.

Treatment is recommended based on the following principles.

(1) VEGETARIAN DIET

The antigen responsible for many allergic conditions is absorbed from the alimentary tract and may be in the form of :—

(*a*) Specific food protein;
(*b*) Intermediate product of protein digestion;
(*c*) Toxic substance resulting from bacterial action on protein.

Since it is probable that the capacity of the digestive organs and liver to deal with food substances is the important factor rather than the actual foods taken, the reduction and simplification of the protein intake, necessitated by a vegetarian diet, should throw much less work on the digestive apparatus, and thus tend to reduce an important contributing factor in the production of the disease.

Diet Rules—

(1) Restriction of or abstention from meat, fish and sometimes eggs;
(2) Abundance of cooked and raw fruit;
(3) Farinaceous foods;
(4) Cheese, fresh butter and glucose in preference to cane sugar;
(5) Meat and fish when allowed should be plainly cooked.

(2) ADMINISTRATION OF AMMONIA

These observers claim to have produced definite benefit in certain types of allergic disease, notably hay fever, urticaria and migraine by the administration of spiritus ammoniæ aromaticus in doses of 2 drachms, thrice daily before meals. The idea is that the increased excretion of ammonia in the allergic cycle is a protective mechanism.

(3) ADDITIONAL GLUCOSE

It has not been possible to discuss in this paper at any length the part played by the liver in anaphylaxis and allergic conditions. The subject is far too extensive, but that in no way diminishes the importance of the part it actually does play. It has been pointed out that in connection with the liver functions glycogen is essential for :—

(*a*) *The Antitoxic Function*—Allows of destruction of bacteria, which does not occur if the liver is deprived of its glycogen;
(*b*) *The Protein Function*—Destruction of amino-acids, beta-oxybutyric and acetone bodies only takes place in presence of glycogen;
(*c*) *The Lipopexic Function.*

Now, in anaphylaxis, signs are not wanting that actual damage to the liver substance does occur, and in allergic conditions a disturbance of the hepatic functions is a common observation, therefore it is rational to presume that the liver acts

as a defensive mechanism in these conditions. Hence, if it can be protected, the effects of the disease will be less severe. One method of protection I have already described, a vegetarian diet; the other is the administration of glucose, for by this method the glycogen content of the liver can be simply and rapidly increased. It is recommended that 2–4 oz. daily be administered, both with and between meals.

All the methods of treatment I have enumerated are, of course, subject to modification and combination, the treatment in any particular case depending on the acuteness or chronicity of the condition, the nature and severity of the symptoms and the particular idiosyncrasies of the subject.

From the information I have placed before you, you will, I hope and think, admit the justification of my original contention—that there is high probability of an anaphylactic reaction being the basic of allergic diseases. For although we have become accustomed to think of anaphylactic shock under artificial conditions as a violent reaction, there is no reason to suggest that under natural conditions and with small doses of the offending antigen the reaction should not be a mild and even chronic one.

That the anaphylactic reaction is an antigen-antibody reaction there can be little doubt, but for the precise nature of the reaction no such definite explanation can be given.

It is interesting and at the same time speculative to note that the reaction produced by histamine, anaphylaxis and poisonous protein derivatives is, with minor specific and individual variations in the incidence of its component factors, fundamentally the same. While explanations have become extremely complicated, there are those, by no means unintelligent observers, who suggest that it may finally prove to be such a comparatively simple matter as the liberation of histamine.

While I would apologise for the incompleteness and disjointedness of my review, I would point out in mitigation, that the subject is so large and is concerned with such controversial matter and little understood phenomenon that it is well nigh impossible to review the whole in a single paper. Nevertheless, from what I have been able to indicate in connection with the precise nature of the anaphylactic reaction, it will be apparent that we are at present unable to participate of that which Bacon so aptly describes when he says, "No pleasure is comparable to the standing upon the vantage ground of truth."

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Current Cases

IV—A Case of Acholuric Jaundice treated by Splenectomy

A—— P—— L——, aged 17 years, was admitted to the Royal Berkshire Hospital on October 5th, 1927, suffering from abdominal pain and jaundice.

Previous History—No illness till the age of 6.

January 6th, 1916—Admitted to the Royal Berkshire Hospital with "gastritis."

Notes—

Has always been strong and healthy; 14 days ago he began to lose his appetite, had a mild pyrexia and suffered from general malaise, slight temporary diarrhœa and marked loss of colour.

On Admission—

Looks anæmic and lifeless. Heart and lungs normal. Spleen enlarged. Urine normal. Otherwise nil.

He was discharged much improved after a fortnight.

At some uncertain date shortly after this his jaundice was first noted. In 1920 he had his next attack. It began with malaise, vomiting and pain, abdominal and in the right shoulder. His jaundice increased.

November 13th, 1920—

Admitted to Guy's Hospital under Mr. Rowlands. Diagnosis of hæmolytic jaundice was made, but as the disability was slight no operation was advised, though its advisability was discussed.

PATHOLOGICAL INVESTIGATIONS

Blood—

Fragility was nearly complete with 0.42 per cent. NaCl, normal 0.35 per cent. NaCl.

Count—

Hæmoglobin	82%
Colour Index	0.8
Total Reds	4,700,000
Total Whites	11,000
Polymorphs	75%
Large Mononuclears	3.6%
Lymphocytes	19.4%
Eosinophiles	1.6%
Mast Cells	0.4%

Blood Serum—

Contains urobilin and bile pigments.

Urine—

Contains urobilin but *no bile pigments.*

February 18th, 1922—

Readmitted to Guy's Hospital. Clinical condition unchanged.

PATHOLOGICAL INVESTIGATIONS

Blood—

Fragility was complete with 0.39 per cent. NaCl.

Count—

Hæmoglobin	80%
Colour Index	0.9
Total Reds	4,200,000
Total Whites	22,000
Polymorphs	74%
Large Mononuclears	6%
Lymphocytes	20%

July, 1927—

He remained well, but slightly jaundiced till this month, when he had another acute attack. This consisted of malaise, increasing jaundice and abdominal pain. After a fortnight he returned to his work; he is an engineer.

September, 1927—

The attack returned, but all his symptoms were more severe. On October 4th, he vomited for the first time since 1920, the pain increased, as also did the jaundice, and he felt very ill indeed. He stated that during an attack his urine is always very dark, but that it is frequently equally dark when there is no attack. His stools have never been clay coloured.

Family History—

The family, who are very intelligent, have no knowledge of any similar cases in relations.

Condition on Admission—

Bright canary yellow all over. Tongue covered with thick white fur. Blood pressure 115–70, pulse 90. Liver not enlarged, but slight tenderness under right costal margin. Spleen palpable, but not greatly enlarged. Otherwise normal.

PATHOLOGICAL INVESTIGATIONS

Blood—

Fragility was complete with 0.38 per cent. NaCl, normal with 0.32 per cent. NaCl.

Count—

Hæmoglobin	75%
Colour Index	0.8
Total Reds	3,035,000
Total Whites	6,000
Polymorphs	48%
Large Mononuclears	3.0%
Lymphocytes	48%
Eosinophiles	1.0%

Van den Bergh test strongly positive in both direct and indirect. Wassermann (sigma), completely negative.

Urine—

Urobilin present, much urobilinogen present. Great excess of bile salts and pigments.

By October 24th, 1927, his acute symptoms had subsided and his urine, though still containing urobilinogen, contained neither bile pigments nor salts. The Van den Bergh was now positive indirect and positive direct. His condition was at this time complicated by an acute attack of tonsillitis.

December 9th, 1927—

Splenectomy by Mr. Bernard Secretan. The operation presented no difficulties; the spleen was four times the normal size and weight. The gall bladder was palpated. It was tense, but contained no stones. Convalescence was uneventful.

January 5th, 1928—

Definite reduction of jaundice. Fragility unchanged. Red count 4,600,000.

December 24th, 1928—

The patient shows no signs of jaundice; he is thin, but describes himself as being in perfect condition, and on a racing tandem cycle he has ridden 140 miles in a day with ease. He has had no return of pain. The scar is satisfactory, nothing can be felt in the abdomen.

PATHOLOGICAL INVESTIGATIONS

Blood—

Fragility, complete with 0.38 per cent. NaCl.

Count—

Hæmoglobin	100%
Colour Index	1.0
Total Reds	5,000,000
Total Whites	10,000
Polymorphs	37%
Large Mononuclears	2%
Lymphocytes	59%
Eosinophiles	2%

Van den Bergh direct negative; indirect positive (strong).

Urine—

No bile pigments or salts. Considerable excess of urobilinogen.

At the present moment the patient shows a complete clinical recovery, but with the definitely unsatisfactory blood count, for the low polymorph percentage may be so described, and with the evidence that there is still an excessive destruction of red corpuscles, a complete cure can hardly be claimed as yet. No splenunculus was seen at the operation.

April, 1929—Patient seen. Clinically fit, no investigations made.

My thanks are due to the late Sir Steward Abram and to Mr. Bernard Secretan for permission to publish this case.

T. S. KEITH, M.B., D.P.H.
St. Mary Abbots Hospital.

"That Thousand Pound Look."

Correspondence

That "Belated" Letter

To the Editor of the GAZETTE

SIR,—Should I congratulate you on clearing out old MSS. at least once in 13 years or condole with you on not having at your elbow a file of old GAZETTES?

I thought I recognised Carl Reinhold's letter which in your issue of June 1st is stated to have "just" reached you. Except that the date is July 1st, it is an exact copy of a letter in the GAZETTE of September 9th, 1916, p. 291. There is much excuse for you, for if you had looked up the index of 1916 you probably would not have found it.

I have not any doubt that his view is correct—at least, for treatment in India. I have reason to believe that the large abscesses we saw during the war are now uncommon, as emetine treatment has cut short the hepatitis in the pre-suppurative stage. I have not much recent literature on the subject at hand, but note that Romanis and Mitchiner view aspiration with disfavour.

Yours, etc.,

C. H. FAGGE.

3, Devonshire Place,
Portland Place, W.1.

[We duly "bite the dust," but claim our correspondent's condolence in our good intentions rather than his congratulations on our depravity. —ED.]

Sport

Guy's v. Bromley

PLAYED at Honor Oak Park on Saturday, May 25th, and resulting in a win for Bromley by the narrow margin of 11 runs.

Scores—Guy's, 107; Bromley, 118.

Guy's

R. J. Eustace, b. Moore	0
S. R. Peatfield, c. Frazer, b. Cherry	43
E. V. B. Widdowson, l.b.w. b. Moore	0
F. H. B. Spence, c. Hill, b. Moore	2
G. J. Clarke, b. Yolland	16
H. Cameron, b. Yolland	11
A. J. D. Lewis, l.b.w. b. Cherry	9
D. J. Rees, b. Moore	11
R. Hogbin, not out	5
R. Outfin, b. Cherry	6
J. P. O'Shea, b. Moore	0
Extras	4
Total	107

Bromley

J. R. Short, l.b.w. b. O'Shea	0
D. M. Marston, c. Rees, b. Clarke	22
J. J. Frazer, b. Rees	8
P. S. McDougall, b. Rees	7
J. Brown, l.b.w. b. Clarke	25
C. J. Comins, b. Eustace	13
R. B. Hill, c. Clarke, b. Rees	6
F. L. Moore, not out	22
R. H. Cherry, l.b.w. b. Eustace	0
H. A. Scheele, b. Lewis	7
R. H. Yolland, b. Eustace	0
Extras	8
Total	118

Bowling—Eustace 3 for 11, Rees 3 for 37, Clarke 2 for 14, O'Shea 1 for 26, Lewis 1 for 8.

1st Round Inter-Hospital Cup

Guy's v. London Hospital

PLAYED at Hale End on Friday, May 31st, and won by the London Hospital by 2 wickets.

Eustace and Peatfield opened the innings for Guy's, but it was not long before the partnership was broken, Eustace being bowled by Percival at 21. Starnes followed, but was bowled by Scoggins before he had scored.

The first three wickets were down for 39, but Clarke and Peatfield made a useful stand and brought the score up to 62 before the fall of the next wicket. Rees hit a quick 26, his score including one 6 and three 4's.

From now on the batting failed, the last three wickets putting on only 13 runs.

Guy's were all out for 134, of which total Peatfield scored 44.

The London Hospital replied with 98. The first wicket fell at 16, Starnes taking a good catch at short leg. Irvine and Davenport now made a very useful stand and brought the score to 75 before the latter was run out after an excellent throw in by Eustace.

From now on wickets fell cheaply, Durr and O'Shea being mainly responsible for the collapse.

In the second innings Guy's did badly, being all out for 89.

The London Hospital, who were set to score 126 in two hours, managed to obtain the runs in the last over of the match.

Scores—Guy's, 134 and 89; London Hospital, 98 and 126 for 8 wickets.

Guy's

1st Innings

R. J. Eustace, b. Percival	8
S. R. Peatfield, b. Scoggins	44
J. A. G. Starnes, b. Desney	0
J. Durr, c. Weinstein, b. Percival	8
G. J. Clarke, c. Davenport, b. Percival	7
E. V. B. Widdowson, st. Saville, b. Scoggins	13
Windsor H. Lewis, c. Saville, b. Irvine	8
D. Rees, b. Irvine	26
A. J. D. Lewis, not out	0
R. Outfin, c. Davenport, b. Irvine	0
J. P. O'Shea, b. Kendall	4
Extras	14
Total	134

2nd Innings

R. J. Eustace, c. Irvine, b. Kendall	6
S. R. Peatfield, c. Irvine, b. Percival	8
J. A. G. Starnes, b. Percival	1
A. J. D. Lewis, run out	4
Windsor H. Lewis, b. Scoggins	19
J. Durr, b. Percival	3
G. J. Clarke, c. & b. Irvine	21
D. J. Rees, b. Percival	8
E. V. B. Widdowson, st. Saville, b. Irvine	6
R. Outfin, not out	0
J. P. O'Shea, c. Scoggins, b. Irvine	0
Extras	13
Total	89

London Hospital

1st Innings

J. L. Irvine, b. Eustace	28
Jekyll, c. Starnes, b. O'Shea	8
Davenport, run out	33
N. D. Jekyll, b. Durr	7
Nickolas, c. Rees, b. O'Shea	2
Desney, b. Durr	0
Weinstein, c. Outfin, b. Durr	0
Scoggins, b. O'Shea	5
Percival, b. O'Shea	6
Kendall, b. Durr	2
Saville, not out	0
Extras	7
Total	98

Bowling—O'Shea 4 for 23, Durr 4 for 39, Eustace 2 for 9.

2nd Innings

Jekyll, b. Clarke	29
Weinstein, run out	27
Kendall, b. Clarke	15
Nickolas, c. Widdowson, b. Clarke	17
Scoggins, b. Clarke	3
Percival, c. & b. Durr	0
Davenport, run out	6
Irvine, c. Lewis, b. Clarke	20
Disney, not out	6
Saville, not out	2
Extras	1
Total (for 8 wkts.)	126

Jekyll did not bat.

Bowling—Clarke 5 for 30, Durr 1 for 60.

1st Round Junior Hospital Cup
Guy's v. London Hospital

GUY'S won the toss and elected to bat in a fine drizzle. H. Cameron and T. D. Ridsdale played confidently and scored 146 before Cameron was bowled for 83. Three quick wickets fell for the addition of 1 run, but there was a useful stand for the fifth wicket, the score mounting to 178 before G. Barwell was bowled for 24. Guy's eventually declared at 192 for 5, leaving London an hour and three-quarters to bat in.

London, although striving hard to play out time, were dismissed eventually for 50 runs with 9 minutes to spare.

Scores—Guy's, 192 for 5 wkts.: London Hospital, 50.

Guy's

H. Cameron, b. Waring	83
T. D. Ridsdale, not out	64
L. E. Marshall, b. Waring	0
E. E. Evans, b. Willis	0
A. R. Clarke, b. Willis	0
G. Barwell, b. Singer	24
J. R. F. Popplewell, not out	7
Extras	14
Total (for 5 wkts.)	192

A. E. Williamson, N. S. Plummer, J. B. Schofield and L. S. Woodivis did not bat.

London Hospital

C. Maguire, b. Barwell	2
E. E. Barnett, c. & b. Barwell	4
D. O. C. Simpson, c. Evans, b. Barwell	11
E. R. Willis, c. Clarke, b. Barwell	12
A. C. Austen, b. Barwell	0
V. M. Siefert, c. Barwell, b. Cameron	2
K. C. B. Butler, c. Schofield, b. Barwell	12
C. J. Waring, c. Cameron, b. Barwell	5
J. Singer, c. Marshall, b. Barwell	0
K. W. Hardy, not out	0
M. Snipper, c. Marshall, b. Barwell	0
Extras	2
Total	50

Bowling—G. Barwell 9 for 25, H. Cameron 1 for 11, L. S. Woodivis 0 for 9, J. B. Schofield 0 for 4.

Guy's v. Chelmsford

PLAYED at Chelmsford on Saturday, June 1st, and won by the Hospital after an exciting finish.

Guy's

R. J. Eustace, l.b.w. b. Smith	0
S. R. Peatfield, c. Eglin, b. Gibbs	19
J. A. G. Starnes, b. Smith	0
E. V. B. Widdowson, not out	48
A. J. D. Lewis, b. Smith	17
D. J. Rees, b. Warsop	22
R. Outfin, hit wkt., b. Warsop	0
J. R. F. Popplewell, run out	1
J. P. O'Shea, c. Eglin, b. Smith	9
G. J. Clarke, c. Eglin, b. Smith	14
— Welsman, b. Young	0
Extras	10
Total	140

Chelmsford

G. E. Rolfe, c. Outfin, b. Rees	9
B. Warsop, b. Rees	21
F. Young, c. Rees, b. Eustace	9
T. Jaggs, c. Clarke, b. Eustace	8
A. Eglin, b. Rees	4
H. Eastwood, c. & b. O'Shea	12
P. W. Farrell, l.b.w. b. Rees	49
J O. Reeve, c. Widdowson, b. O'Shea	3
J. Gibbs, not out	9
F. Clist, run out	3
F. J. Smith, b. O'Shea	0
Extras	8
Total	135

Bowling—O'Shea 4 for 56, Rees 3 for 42, Eustace 2 for 14.

Guy's v. Old Charlton

THIS match was played at Charlton Park on Saturday, June 8th, and resulted in a win for Old Charlton.

Scores—Guy's, 113; Old Charlton, 149 for 9.

Guy's

S. R. Peatfield, c. Martin, b. Leach	15
W. H. Lewis, c. Stout, b. Leach	15
E. V. B. Widdowson, c. Shrimpton, b. Leach	6
J. A. G. Starnes, b. Martin	0
R. J. Eustace, l.b.w. b. Leach	1
G. J. Clarke, b. Martin	43
D. J. Rees, l.b.w. b. Martin	1
L. E. Marshall, b. Martin	15
G. Barwell, not out	12
A. E. Williamson, l.b.w. b. Leach	1
J. Durr, absent	0
Extras	4
Total	113

Old Charlton

H. Shrimpton, l.b.w. b. Rees	13
G. Head, l.b.w. b. Rees	4
J. West, c. sub, b. Rees	0
E. Owen, l.b.w. b. Barwell	14
R. Cooper, l.b.w. b. Clarke	27
G. Stout, b. Clarke	27
C. Leach, b. Eustace	5
R. Newman, c. Lewis, b. Eustace	4
A. Martin, c. sub, b. Eustace	1
F. Warburton, not out	32
S. Goodway, not out	9
Extras	14
Total (for 9 wkts.)	149

Bowling—Rees 3 for 43, Eustace 3 for 41, Clarke 2 for 27, Barwell 1 for 20.

Golf.

THE result of the Competition for Dr. Cameron's Prize, which was played at Sidcup on Wednesday, May 15th, is as follows :—

Scratch Prize (*1st 18 Holes*)—

1.	J. Johnstone, B. Wilberforce-Smith	88
2.	E. J. Pye-Smith	90

Handicap Prize (*1st 18 Holes*)—

1.	B. Wilberforce-Smith	88— 8=80
2.	W. L. Mountain	92— 9=83
	O. Ive	93—10=83

Fourball Foursome (*Handicap*)—

1.	O. Ive & B. S. Southam	81—10=71
2.	Mr. Chapple & E. Evans	83—11=72
	P. M. Bishop & F. W. Gilbert	85—13=72

Result of match played against Hastings Medico-Dental Golfing Society at Hastings on Sunday, May 26th :—

Guy's Hospital won by 7 matches to 4.

H. B. THORNTON,
Hon. Secretary.

Lawn Tennis.

Guy's v. Stowe School

THIS match was played at Stowe on Saturday, June 8th, and resulted in a win for Guy's by 7 matches to 2.

R. Bruce Pearson and D. K. Gaitskell—
Beat Wragge and Clarke 6–2, 3–6, 6–4.
Beat Wace and Mornington 6–3, 6–2.
Beat Miers and Evans 6–2, 6–0.

G. J. Hollis and P. T. L. Day—
Lost to Wragge and Clarke 6–2, 3–6, 1–6.
Beat Wace and Mornington 6–2, 6–3.
Beat Miers and Evans 6–0, 6–2.

E. Sharpe and S. C. Holman—
Lost to Wragge and Clarke 1–6, 4–6.
Beat Wace and Mornington 3–6, 6–4, 6–3.
Beat Miers and Evans 6–1, 6–1.

Guy's 2nd VI. v. Barts.

THIS match was played at Winchmore Hill on Saturday, June 8th, and resulted in a win for Guy's by 6 matches to 3.

F. Holman and H. Cowen—
Lost to George and Papert 2–6, 3–6.
Beat Taylor and Savage 6–3, 8–6.
Beat Fisher and Mardion 6–3, 6–0.

G. M. Housden and Min Sein—
Beat George and Papert 6–2, 6–3.
Beat Taylor and Savage 7–5, 7–5.
Beat Fisher and Mardion 6–3, 6–0.

E. Zorab and H. D. Robinson—
Lost to George and Papert 1–6, 4–6.
Lost to Taylor and Savage 6–0, 5–7, 4–6.
Beat Fisher and Mardion 6–2, 3–6. 6–0.

Rowing Club

Inter-Hospital Rowing Club

THE United Hospitals held its Annual Regatta at Putney on May 22nd. It was a glorious day, and everybody present enjoyed the run and the smooth water.

The launches had a number of ardent supporters from Guy's on board, among whom should be mentioned Mr. and Mrs. Davies-Colley, who is the Club's President, Mr. and Mrs. F. Steward, and also some old members—Messrs. Clifton, Clayton-Jones and Townsend.

Guy's managed to give some very interesting and sporting racing, and in the end captured once again the United Hospitals' Junior Challenge Cup.

The evening ended with an United Hospitals' Dinner, which most of the competing Hospitals attended

The Club wishes to thank everyone who helped to make the day so successful.

One who deserves much praise is Mr. Hylton Cleaver, who coached us once again. He always wishes to retire into the background after the race and be forgotten, but really it is his one ambition every year to try and make Guy's win the Cup.

The following are the names of the crews :—

Eights

Bow	I. B. Spearman
2	E. B. Carpenter
3	W. J. Wheatley
4	R. J. Wheatley
5	J. M. Lea
6	W. H. Miller
7	G. G. Ellis
Stroke	F. H. Stevenson
Cox	I. F. A. Foster

Fours

Bow	R. Symmons
2	K. Biden-Steele
3	G. S. Loader
Stroke	J. Oliver
Cox	McNeil

The eights' course was from Hammersmith Bridge to the University Stone and the fours' from Mile Post to the University Stone.

G.G.E.

AN ACCOUNT OF THE EIGHTS' RACE, WITH CRITICISMS

By HYLTON CLEAVER

Coach of the Guy's Eight

Although this year's eight for the United Hospitals' Challenge Cup never displayed genius as such, it certainly made every effort to acquire it by an infinite capacity for taking pains.

Only three of last year's crowd were available, and of these only one was able to occupy his old position. A new stroke had to be unearthed, and when the crew first had an official outing this was a problem calling for a quick decision. Owing to one thing and another not much time was available for training, and it must be confessed that the first appearance of Guy's on the water did not give rise to any hopes that they could uphold the traditions of post-war hospital rowing.

However, in Miller at 6 and Ellis at 7—both most important positions—there was a helpful steadiness and experience, and Stevenson appeared the most likely to make a good stroke. Wheatley, who had stroked the Hospital Junior Eight in the Head of the River races, had stamina and courage, but scarcely sufficient rhythm or experience. Stevenson was short, but overcame this, and eventually gave the crew quite a respectable length.

For the first time in history four crews were entered, with the holders, St. Thomas's, as favourites. In the result Guy's did really well to get second place over Bart.'s and London—Bart.'s had been in training for some time, and London were a heavy lot—and, in particular, to hang on to St. Thomas's in the courageous way they did.

The sole reason they made this good show was that they were a crew who, whatever they lacked in polish, certainly had " guts "—they were young, fit and showed a most gratifying desire to learn. Not one man in the crew imagined he was better than he was. It is, in fact, rare to find in any crew

such a desire to remedy faults, coupled with the ability to do so.

In the actual race Guy's drew a pretty good station in Surrey 2, with St. Thomas's inside them, and London and Bart.'s on Middlesex and Surrey respectively. In a good start Guy's struck 10 in a quarter minute, 20 in the half and 39 in the minute, and for a time there was a keen fight for the lead. London, however, fell behind, and eventually Guy's and St. Thomas's emerged with Bart.'s third. The race between Guy's and St. Thomas's then settled down into what was to be a thrilling struggle. By a succession of spurts Stevenson hung on to St. Thomas's until rough water was reached, where he began to gain; at one time he was over a quarter of a length up and still improving, with Bart.'s pluckily hanging on about a length astern. London gradually dropped out of the race, but they had bad luck in being under-boated and, at the finish, in being washed by the umpire's launch. This, however, was unavoidable owing to the close finish.

In the bay the St. Thomas's cox edged over much too far, and Guy's gave way rather than risk a collision. Had they held to their course the decision would definitely have been against St. Thomas's, but Guy's preferred to fight it out.

The result was that, with stroke side rather the stronger in the crew, the Guy's cox had some difficulty in straightening round the bend, and it was here that distance was lost, but Stevenson, who was rowing a steady 32, could not get above 34 in response. Inch by inch St. Thomas's drew ahead, and finally won by a length and a quarter, with Bart.'s a further length and a quarter behind.

St. Thomas's were certainly the more polished crew, and probably received a shock in finding Guy's hanging on to them so grimly for more than a mile. Had there been rough water all the way, or had the Guy's cox held to his station, or, again, had he been able to straighten out better instead of going almost crab-wise along the straight, anything might have happened. As it was, Guy's were beaten by the favourites after a very fine attempt to upset the odds, and the best feature of their row, apart from stamina, was their steadiness and coolness during a desperate race.

Of individuals, Ellis was the only man in the boat able to row 7 and Miller the only man able to row 6. Without these two the crew would indeed have been in extremis during early training. Neither lost his form at any time, and both were of great help in keeping the crew calm.

Stevenson stroked well and pluckily. He improved a great deal during practice, struck a very fair rhythm, and lacked only the ability to work up the rate of striking at the finish to the blind heroics sometimes necessary to snatch a victory on the post. A good stroke should always be able to finish at more than 34 when it is obvious that nothing else can save the day. Apart from this, much of the steadiness shown by the crew was due to Stevenson and to the way Ellis and Miller backed him up. Lee, at 5, improved like the others, but swung badly and was short forward; these seem to be anatomical faults, but they have been eradicated in others, and no doubt he will lose them in time. The younger Wheatley, at 4, was one of the best stayers in the crew; he pulled his whole weight every stroke and delighted in hard work, his chief fault is inability to keep good time, but this he was overcoming by degrees, and in the race he rowed well. His brother at 3 was also an enthusiast of the type it is enjoyable to coach; he had more difficulty than some in remedying his chief faults, and at times seemed literally unable to reach well out forward; he was also uncertain with his hands. At 2 Carpenter was rowing under the marked handicap of being much too tall for his position in the boat, and a good deal of the discomfort he showed was due to the fact that the 2-thwart in the Guy's boat was never meant for a man over six feet. The result was that his knees got in the way and he felt unable to reach out or to swing. In the circumstances he made a plucky show. Spearman, who came in at bow when Clifton, to everyone's regret, was found ineligible to row—a great pity, as he is leaving England and would have completed a record number of appearances—was a better substitute than might have been expected, but, like all the bow four, he did not always keep good time, nor did he reach forward easily enough. As an untrained man, however, he came into the crew and stuck out some long practice rows very satisfactorily.

Cox was good. He was also intelligent in the use of his voice. He was not at his best in the actual race, but circumstances conspired against him, and the proximity of three other crews in a tight race is at all times a grim test of coxing, especially on tidal water with wide sweeping bends. The umpire cautioned St. Thomas's at the critical moment, but by this time Guy's were pushed too far out of their course to get back and, as stated, never really straightened out to the end.

A word of praise is due to Ellis, who not only captained the crew but was acting as secretary of United Hospitals, and had all the arrangements for the race and festivities after on his mind. He might have been excused for tiring during the race as a result, but he rowed well—a difficult achievement for a harassed man.

AN ACCOUNT OF THE FOURS RACE, WITH CRITICISMS

By E. T. CLIFTON

St. Thomas's were favourites in this race, and those who saw Guy's go up to the start expected to see an uninteresting race.

As it happened, it was actually the reverse. Guy's drew a good inside station, and went away well with St. Thomas's; Bart.'s and London were left at the start. All through the race there was never more than half a length separating Guy's and St. Thomas's; in fact, St. Thomas's led until Fulham Corner, when Guy's, who had the shorter boat, began to creep up, and the crews racing dead level past the Boat House, Guy's managed to win by a canvas.

St. Thomas's looked the better crew, having more style than finish. The victory of Guy's was entirely due to No. 3, Loader, who was always calm and steady, and to Stroke for his stamina. Symmons, bow, and Biden-Steele, 2, were never pretty oars, but will improve if they can find time for coaching.

Hospital Information, etc.

Pass List

L.D.S.
FIRST PROFESSIONAL EXAMINATION
May, 1929

PART I
Dental Mechanics

E. B. Carpenter
L. H. G. Cummings
G. G. Ellis
K. C. Gebbie
G. S. Loader
F. J. Mardon
H. C. Norman
J. W. Small
R. W. Tuck
W. J. Wheatley
E. L. Clark
G. T. C. du Plessis
R. L. Etheridge
J. E. Ilott
S. R. Luton
W. L. Mountain
G. E. Paxon
J. H. Stevens
D. J. Wandless
S. M. Whitteridge

PART III
Dental Metallurgy

B. Deggots
J. H. Timpson
F. R. M. Willis
J. T. Holford
A. F. Town

PART III(a)
Anatomy and Physiology

V. P. Betts
J. T. Cramp
J. C. Fry
C. B. Green
E. R. Heathcote
D. C. D. Matthews
S. Williams
G. T. C. du Plessis
R. S. Bruce
J. T. P. Cullingford
S. S. Gill
H. N. V. Hathorn
H. G. Jokelson
W. F. Rose
E. L. Clark
W. L. Mountain

PART III(b)
Dental Anatomy Physiology

C. G. W. Brown
T. A. Chandler
H. D. Cockram
J. H. R. Gaffney
C. P. B. Reed
C. R. K. Smith
A. E. Williamson
T. D. Wren
S. C. S. Brown
J. J. Cochrane
M. A. Freeman
C. H. Hole
W. K. Scantlebury
N. G. Straschun
G. R. Wootton

UNIVERSITY OF LONDON
THIRD (M.B., B.S.) EXAMINATION FOR MEDICAL DEGREES
May, 1929
HONOURS
C. F. Cosin
Distinguished in Medicine

PASS

C. G. Bowen
D. E. Dunnill
R. L. Harward
W. F. Hudson
W. S. McConnell
C. B. Picken
A. Wiseman
S. L. A. Clarke
H. N. W. Harley
E. C. H. Huddy
S. C. H. Lane
M. L. Mistri
H. W. A. Post

GROUP I

E. F. Hewlitt
A. G. Signy

GROUP II

K. E. Lane

Papers by Guy's Men

Hector Charles Cameron, F.R.C.P. Ingleby Lecture on Some Types of Septic Infection in the Newly-Born, *Lancet*, 1929, i, 1127; Lecture II, Trismus Neonatorum as a Manifestation of Sepsis Neonatorum, *Ibid*, 1184.

C. H. Fagge, M.S., F.R.C.S. Acute Osteomyelitis, *Clin. Jour.*, 1929, lviii, 253.

W. E. Tanner, M.S., F.R.C.S. Empyema in Children, *Post-Grad. Med. Jour.*, 1929, iv, 109.

E. G. Slesinger, O.B.E., M.S., F.R.C.S. Fractures of the Wrist Joint, *Ibid.*, 114.

Sir Wm. Hale-White, K.B.E, M.D. The Bicentenary of the Birth of Oliver Goldsmith, *Lancet*, 1929, i, 1229.

A. H. Douthwaite, M.D., F.R.C.P. Some Aspects of the Treatment of Rheumatoid Arthritis, *Lancet*, 1929, i, 1035.

Appointment

F. Holcombe Fuller, M.R.C.S., L.R.C.P., L.D.S., appointed Hon. Dental Surgeon to the Sussex Eye Hospital, Brighton.

Change of Address

James A. Vernon, M.R.C.S., L.R.C.P., "Firlands," London Road, Ascot, Berks. 'Phone: Winkfield Row 157.

H. Keith Williams, M.C., M.B., B.S.Lond., Attwood House, Basingstoke. 'Phone: Basingstoke 287.

Notices

DENTAL SCHOOL

SENIOR PRIZE IN GENERAL SUBJECTS

The following award has been made:—

T. W. E. Pugh. Prize, £10.

STAFF APPOINTMENTS

APPLICATIONS are invited for the following appointments, duties to commence on October 1st, 1929.

Applications should be made to the Treasurer in the Superintendent's Office on or before Monday, June 17th.

Medical Assistants	2
Tuberculosis Officer	1
Instructor of Patients with Defective Speech	1
Senior Assistant Bacteriologist	1
Junior Assistant Bacteriologist	1
Assistant Anæsthetists to the Hospital	6
Anæsthetist to Bright Ward	1
Resident Medical Officer to Bright Ward	1
Clinical Assistants to Medical Out-Patients	3
Chief Clinical Assistant and Registrar, Actinotherapeutic Department	1
Chief Clinical Assistant and Registrar, Ear, Nose and Throat Dept.	3
Chief Clinical Assistant and Registrar, Neurological Department	1
Chief Clinical Assistant and Registrar, Ophthalmological Department	3
Chief Clinical Assistant and Registrar, Orthopædic Department	1
Chief Clinical Assistant and Registrar, Dept. for Psychological Medicine	1
Dental Officer to Salomons Centre	1
Dental Anæsthetist to Salomons Centre	1
Director of Venereal Diseases Dept.	1
Assistant Director (Female) of the V.D. Department	1
Medical Officers (Male) to the V.D. Dept.	2
Medical Officers (Female) to the V.D. Dept.	2

HERBERT L. EASON,
Superintendent, Guy's Hospital.

MEDICAL SCHOOL APPOINTMENTS

APPLICATIONS are invited for the following appointments, duties to commence on October 1st, 1929. Applications to be lodged with the Dean, in the Medical School Office, not later than Monday, June 17th.

Medical Registrar	1
Surgical Registrars	3
Obstetric and Gynæcological Registrar	1
Clinical Tutor with charge of Preliminary Clinical Period	1
Beaney Scholarship in Materia Medica	1
Demonstrators of Pathology—	
Griffiths Demonstrator	1
Whole Time	1
Whole Time, with charge of the Clinical Laboratory and the post of Hæmatologist to the Hospital	1
Part Time	1
Demonstrators of Anatomy—	
Whole Time	2
Part Time	1
Demonstrators of Physiology—	
Whole Time	2
Part Time	1
Demonstrator of Pharmacology, Part Time	1
Demonstrator of Physics, Whole Time	1
Demonstrators of Chemistry—	
Whole Time	2
Part Time	1

N.B.—The attention of applicants is drawn to the following Regulation: The holders of the appointments set out below are required to take out Insurance Policies insuring against sickness, half of the required premium (£3 15*s.*) to be paid by the School and half (£3 15*s.*) by the individual concerned. Further information can be obtained on application to the Dean:—

Surgical Registrar;
Medical Registrar;
Obstetric and Gynæcological Registrar;
Clinical Tutor in charge of the Preliminary Clinical Period;
Whole Time Demonstrators,
Part Time Demonstrators holding two appointments and receiving a total salary of not less than £250 a year.

T. B. JOHNSTON, *Dean.*

DENTAL SCHOOL APPOINTMENTS

APPLICATIONS are invited for the following appointments, duties to commence on October 1st, 1929. Applications to be lodged with the Dean, in the Medical School Office, not later than Monday, June 17th:—

Senior Dental Officer and Clinical Tutor	1
Assistant Dental Bacteriologist	1
Registrars in the Dental Department for Children	2
Anæsthetists to the Dental School	2
Asst. Anæsthetists to the Dental School	4
Demonstrators of Dental Prosthetics	2
Demonstrators of Operative Dental Surgery—	
Morning Attendance	4
Afternoon Attendance	2

T. B. JOHNSTON, *Dean.*

Marriages

WILLIAMS—BENNETT—On April 18th, 1929, at St. Peter's, Cranley Gardens, Harry Keith Williams to Gladys M. Bennett.

CONWAY-JONES—KING—On June 6th, 1929, at the Cathedral Church of Holy Trinity, Guildford, by the Provost, Canon E. C. Kirwan, Powis, son of Mr. and Mrs. T. J. Conway-Jones, of Guildford, to Thelma Enid, daughter of Mr. and Mrs. Arthur King, of Guildford.

EDS. { O. P. / E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

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PASSIM

IT is rarely that persecution of the upholders of any cause achieves anything but sympathy for that cause in the public mind. Be the object of persecution worthy or unworthy matters not at all to a large section of the public. So long as it is being persecuted and can point to its martyrs, supporters will flock to its banner, paying no heed to the cause which the banner flaunts. For that reason alone is the recent demonstration against the anti-vivisectionists to be deplored. It seems to us quite obvious that the anti-vivisection movement can never have any real appeal to the balanced mind which thinks at all scientifically or can view the question in its entirety. But it certainly has an appeal on strictly sentimental grounds to a large mass of muddle-headed people who either cannot or will not pursue an argument to its ultimate conclusion. Further, the particularly crude method of persecution employed at the Caxton Hall, whether it followed premeditated design or last-minute inspiration, gave to the anti-vivisectionists a most powerful weapon against their critics. For, surely the refusal to allow a hearing of any argument is the greatest compliment that can be paid to the potency of that argument by its antagonists. So, without wishing to treat the matter as seriously as some of our contemporaries have done, we feel that the bright spirits responsible for this orgy of bad manners have committed a blunder, not so much in their intention as in their methods, which contained subtlety and a sense of humour in infinitely small proportions. Far be it from us to damp any ardour which might add to the warmth of our life and fan the fire of a somewhat dull and monotonous existence into the relative fury of exciting novelty, but we would like to put in a strong plea for originality and a sense of proportion in the minds of those who order these things.

THE Voluntary Hospital, like Micawber, has always faced financial embarassment with an incurable optimism, and, fortunately, something in the shape of an unexpected donation has nearly always turned up in time to prevent disaster. Quite often, however, the vital shilling that represented the all important though trifling balance of income over expenditure has been derived from the thrift or gratitude of the patients themselves, and the consolidation of this extremely variable factor into terms of hard cash would obviously do much to thicken the thin financial ice on which the whole hospital system goes so gaily skating.

We are given to understand that the so-called *Green Voucher* system is well on the way towards the accomplishment of this very laudable end. In the short space of five years the Hospital Saving Association has effected the insurance of over one-seventh of London's population, and already contributes nearly £250,000 per annum to the credit side of hospital accounts. The green voucher issued to all whose income is within hospital limits in return for a regular contribution of 3d. per week covers payment of medical treatment received at a voluntary hospital, and also assists in the cost of surgical appliances, treatment at convalescent homes, etc. It is expressly stated that the decision as to whether any case is suitable for hospital treatment and as to the order in which applicants are admitted lies with the individual hospital. Acquaintance with this proviso is important because experience in the Front Surgery suggests an impression to exist among many H.S.A.

contributors that presentation of their voucher will instantly secure a bed in hospital regardless of the individual merits of the case.

A publicity campaign designed to make the benefits of this scheme, both to hospital and patient, more widely known has been a prominent feature of the past week, and we have no hesitation in hoping that such energetic bill posting will be attended with the great success it undoubtedly deserves.

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We have pleasure in noting that the University of New Brunswick has conferred the honorary degree of Doctor of Laws upon Sir Charters Symonds. Sir Charters, who was born at St. John in the State of New Brunswick, signalised the occasion by founding a prize to be known as the James Symonds Prize in History, in honour of the original English settler at the mouth of the St. John River.

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Another honour that has recently been conferred upon an old Guy's man is that given to C. Robert Rudolph, L.D.S., Eng., who was recently elected one of the ten Honorary Fellows of the Hunterian Society.

We should like to draw attention to the Royal Medical Benevolent Fund which was founded in 1836 as a general charity for the benefit of the medical profession. The objects are to make grants of money to distressed practitioners, their widows or orphans, and to provide annuities for the more urgent of the above cases after 60 years of age. The fund is entirely dependent on the support of the profession itself and we feel sure that its rank as a most deserving cause needs no emphasis, yet may be forgotten only too often in the rush and stress of professional life. Subscriptions, large or small, should be sent to the Hon. Treasurer, Royal Medical Benevolent Fund, at 11, Chandos Street, London, W.1.

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The prizes awarded at Guy's are varied and numerous, and we have the greatest admiration for the courage of those that battle for them and the skill of those that win them. Our feelings become positively reverent when we think of the gold medals in medicine and surgery, and we offer our hearty congratulations to W. J. Ferguson and R. S. Bruce-Pearson on their recent achievements in these searching tests.

Types of Cardiac Failure

A Clinical Lecture by J. J. Conybeare, M.D.

GENTLEMEN,—Before attempting any discussion of the various forms in which cardiac failure may manifest itself, it is necessary to get a clear idea of what we mean by the term cardiac failure and what are the conditions which may give rise to it. Definitions are, of course, always difficult, but it is probably safe to say that cardiac failure is an inability of the heart to maintain the circulation at a point adequate for the normal needs of the body. Such an inability may be so marked that the patient will die, sometimes very rapidly, or it may lead at first to partial disablement only, which, however, is likely ultimately to progress until a condition is produced which is incompatible with life.

Perhaps the most important point in connection with heart disease is the fact that the ultimate determining factor for the onset of cardiac failure is the condition of the heart muscle, or, as it is often termed, the myocardium. If this be undamaged the heart is able to function adequately even though it be affected by severe valvular lesions. Unfortunately, however, the morbid processes, such as rheumatic fever, which are specially liable to affect the valves or the pericardium almost invariably also damage the myocardium to a greater or less extent. The heart is liable to temporary or permanent damage in most infective and toxæmic conditions, such as rheumatic fever, scarlet fever, pneumonia, diphtheria and many others; in fact, when death occurs as a result of such infections it is usually due mainly to failure of the cardiac muscle. For such a condition the term carditis is often used to indicate an inflammatory or toxæmic condition which affects the heart as a whole.

The causes of failure of the cardiac muscle may be grouped under two headings—the mechanical and the nutritional. In some conditions, such as a valvular lesion, the muscle is called upon to perform additional work owing to mechanical inefficiency of the heart as a pump, but, as has been already pointed out, the heart muscle is probably also to some degree damaged as the result of the infection which produced the valvular lesion. In other conditions producing cardiac failure the cause lies essentially in the myocardium. Thus its nutrition may be affected by infections and toxæmias, or as the result of a defective blood supply through the coronary vessels, such as may occur from the obliterative changes of atheroma.

Perhaps the most obvious cause of mechanical inefficiency in the heart is disease of the valves, whereby they either allow blood to regurgitate past them while closed, or owing to inadequate opening offer additional resistance to the passage of blood from one chamber to another. As examples of such lesions we may quote mitral stenosis or aortic regurgitation. The heart's action may, however, also be embarassed by affections of the pericardium. Thus adhesions between the layers of the pericardium and its attachment by fibrous tissue to adjacent parts, such as the chest wall, tend to interfere with its effective action. More rarely congenital malformation may produce inefficiency as a pump.

Pathological conditions in other organs may also produce secondary effects upon the heart, which ultimately lead to failure. Thus chronic bronchitis and emphysema diminish the capillary field in the pulmonary circulation and produce a mechanical obstruction to the outflow of blood from the right side of the heart. Pathological changes in the kidneys, such as an interstitial nephritis, produce an increase in the systemic blood pressure which entails extra work for the left side of the heart. Similarly a condition of primary high blood pressure in the absence of renal disease may also lead to failure of the heart muscle.

Perhaps the most important factor lending to insufficiency of the myocardium after middle life is an interference with the blood supply to the cardiac muscle. The coronary arteries may be narrowed by atheroma or their orifices partially obstructed by similar changes in the first part of the aorta. In such an event as a result of undernutrition the highly specialised cardiac muscle fibres are to some extent replaced by fibrous tissue and the heart is then said to be fibroid. Complete occlusion of a branch of a coronary artery by thrombosis may produce infarction of an area of the myocardium. In both these conditions, fibroid heart and coronary occlusion, there is necessarily serious damage to the power of the myocardium which may result in acute or chronic heart failure.

We may now turn to a consideration of the clinical manifestations of heart failure. Speaking broadly it may be said that cardiac failure approximates to one or other of two main clinical types. These are known as congestive cardiac failure and the anginal syndrome. Both of them are due to insufficiency of the myocardium, but it is important to realise clearly that neither congestive cardiac failure nor the symptom complex known as angina pectoris are diseases in themselves. Disease of the myocardium may produce either of these common forms of cardiac failure, but the two conditions never occur simultaneously. When a condition of congestive cardiac failure has become established the patient never suffers from attacks of anginal pain, and conversely a patient with anginal attacks shows no evidence of congestive cardiac failure. Although, however, congestive failure and anginal attacks never occur together, it is not uncommon to find that a patient who has been subject to anginal attacks ultimately develops symptoms of congestive failure. When this occurs the anginal pain disappears, and though the patient may be in great distress owing to breathlessness there is no recurrence of the typical attacks of angina pectoris. While it is true that patients with angina may develop congestive cardiac failure it is doubtful whether those who have developed failure of this type ever revert to their previous condition of angina. It would appear, therefore, that in some way the two conditions of angina pectoris and congestive failure are incompatible, although they both represent the clinical manifestation of a damaged cardiac muscle.

We may now proceed to a more detailed consideration of congestive cardiac failure. The condition must be familiar to all of you, for it is the most common form of heart failure seen in the hospital wards and in practice. Although it is most frequently seen in patients suffering from mitral stenosis it is by no means confined to those with this condition and often occurs without any valvular lesion. Thus myocardial insufficiency due to fibroid or fatty changes in the heart muscle may lead to congestive failure, as may also the damage done to the myocardium by infarction in coronary occlusion.

The clinical features of congestive failure vary with the severity of the condition. At one end of the scale we see the patient gasping for breath, restless, coughing, cyanosed, and œdematous, while at the other there may be little more than dyspnœa on slight exertion and perhaps slight puffiness of the ankles at the end of the day. When the condition is at an advanced stage practically all the organs of the body are affected owing to the increased venous pressure which obstructs the venous return to the right side of the heart. The venous congestion of the gastric mucous membrane may result in vomiting and sometimes even slight hæmatemesis. The liver is enlarged, tender, and may pulsate. Congestion in the pulmonary circulation leads to œdema of the lungs, particularly at the bases, and the patient complains of cough and often brings up blood-stained sputum. In more severe cases fluid accumulates in one or both pleural cavities and further aggravates the dyspnœa. Albuminuria is usually present from venous congestion of the kidneys. The right side

of the heart is always dilated whatever the pathological condition may be which leads to congestive failure. Frequently, though not invariably, the rhythm is grossly irregular as a result of auricular fibrillation. The auricles are dilated and may contain partly organised clot, portions of which may become detatched and produce embolic phenomena. Among these may be mentioned cerebral embolism and infarctions of the lung. Sometimes irregularity of rhythm may be due to numerous extra-systoles and this condition often occurs before the onset of definite fibrillation.

In the earlier stages of congestive cardiac failure there may be but few symptoms beyond an impaired exercise tolerance, but a careful physical examination may detect physical signs which point to the correct diagnosis. Moist râles at the bases often occur long before any œdema or marked dyspnœa, and sometimes tenderness under the right costal margin may indicate the early stages of venous congestion of the liver, even though there be no obvious enlargement of that organ. Increased venous pressure may be demonstrated by the failure of the veins of the arms to collapse rapidly when the limb is elevated above the level of the manubrium.

We may now turn to a consideration of angina pectoris. Just as congestive failure may occur in a variety of cardiac conditions such as chronic valvular disease or myocardial insufficiency, so with angina there is no single pathological condition in the heart which gives rise to the symptom complex of angina. Attacks of typical anginal pain may even occur where there is no demonstrable lesion either at the bedside or at autopsy of cardio-vascular disease. In the great majority of patients suffering from anginal symptoms there is demonstrable disease of the heart or aorta, such as fibrosis of the heart muscle, atheromatous changes in the coronary vessels, or dilatation of the first part of the aorta. Mitral disease, however, which has already been stated to be the most frequent cause of congestive cardiac failure, rarely, if ever, produces typical attacks of angina pectoris. When this symptom occurs in conjunction with a valvular lesion it is usually the aortic valve which is damaged and generally the damage is secondary to syphilitic changes in the aorta.

As in congestive failure, so with the anginal syndrome there may be great variation in the severity of the attacks. In its milder forms, often termed *angina minor*, there may be little more than precordial discomfort on exertion which is rapidly eased by a cessation of exercise. In the severe types, *angina major*, there is excruciating pain in the region of the heart which may radiate down the inner aspect of the left arm, sometimes the right arm, downwards into the epigastrium, or upwards into the neck. It is accompanied by a sense of impending death, and the chest often feels as if it were gripped in a vice. Each individual seizure seldom exceeds two minutes in duration, though to the patient in his agony it may seem an eternity. As the disease progresses the paroxysms tend to occur more frequently and to become increasingly severe. During the seizures there are associated an ashen pallor of the face, a holding of the breath, and a characteristic immobility of the body. The pulse rate remains regular and is seldom increased in rate. Death may occur in an actual attack of anginal pain, but as has already been stated the attacks of pain may cease and the patient pass into a condition of congestive cardiac failure. Somethimes there may be a prolonged attack of pain lasting hours or even days due to infarction of the heart muscle from thrombosis in a branch of a coronary artery. In this condition of coronary occlusion other features are present such as pyrexia, leucocytosis, a drop in the blood pressure and sometimes pericardial friction. Often after a coronary occlusion the patient passes into a condition of congestive failure with general anasarca.

Although the types of cardiac failure most commonly met with are congestive failure and angina pectoris there are in addition other forms in which cardiac disease may be manifested. Thus a failry common termination to chronic valvular disease is infective endocarditis. In this condition there is a subacute bacterial infection of the already damaged valves by the *streptococcus viridans*. Friable vegetations are formed upon the inflamed valve segments and detachment of such vegetations may produce emboli which lodge in the brain, spleen, kidneys, skin, or elsewhere. Death may ultimately occur from the toxæmia and exhaustion associated with the prolonged septicæmia ; a large cerebral embolus may produce a widespread area of cerebral softening which may be rapidly fatal, or a multitude of emboli in the kidneys may lead to an embolic nephritis in which the patient dies of uræmia.

A rather rare form of cardiac failure is heart block, brought about by interference with the neuro-muscular conducting tissue. As a result of the extremely low rate of ventricular contractions attacks of transient unconsciousness may occur, which are known as Stokes-Adams disease. These attacks are recurrent and usually of very short duration, but sometimes the patient may die in an attack. The presence of heart-block indicates, as a rule, not only a lesion in the conducting tissues, but also a more widespread change, usually fibrotic, in the heart muscle.

In any form of heart disease, valvular or myocardial, and sometimes in disease of the aorta, such as syphilitic aortitis or aneurysm, attacks of acute œdema of the lungs may occur. Though relatively rare in association with mitral stenosis they are not uncommon with disease of the aortic valves, particularly when this is syphilitic in origin. The onset of an attack is strikingly sudden and may be mistaken for asthma. The patient has the greatest difficulty in breathing, particularly during expiration; very large amounts of frothy sputum, sometimes blood stained, are coughed up; pain is variable and is often absent, but the patient is acutely distressed. These paroxysmal attacks of dyspnœa, which have sometimes been termed cardiac asthma, seldom last more than half-an-hour, and cease as suddenly as they begin. The attacks are usually recurrent and the patient may die during an attack. In elderly persons without obvious signs of valvular disease or aortic aneurysm they usually indicate an advanced stage of myocardial insufficiency and death is likely to occur at any time from sudden cardiac failure or a more gradual congestive failure.

The myocardium is always to some extent damaged in acute infective diseases, such, for example, as pneumonia, and in such conditions death, when it occurs, usually results from cardiac failure of an acute type. Occasionally there may be a sudden and fatal syncopal attack, causing death within a few seconds from stoppage of the heart. This may occur in diphtheria even when convalescence appears to be established. More often cardiac failure in acute illnesses comes on during the height of the disease. Often following a period of restlessness or delirium there is a sudden collapse with great acceleration of the pulse rate, a fall in the blood pressure and sometimes persistent vomiting.

In conclusion we must lay stress once more upon the fact that heart failure, in whatever form it may manifest itself is ultimately due to myocardial insufficiency. So long as the heart muscle remains relatively sound the circulation can be maintained satisfactorily even in the presence of advanced valvular disease. Moreover no particular type of cardiac failure is necessarily associated with any single pathological condition of the heart. Thus, although congestive failure is more commonly seen with mitral stenosis than any other lesion it may also occur with fibroid or fatty changes in the heart muscle or it may follow coronary occlusion with cardiac infarction. Similarly though the anginal syndrome is most often found in patients with atheroma of the coronary vessels it may sometimes occur with disease of the aorta or of the aortic valves.

Current Cases

V.—A Case of Post Varicellar Encephalo-Myelitis

BY the evolution of his remarkable nervous system man has become what he is at present. He contented himself however with merely "boxing up" his central nervous system and lulled himself into believing that it was secure from what Sir Ray Lankaster calls "nature's inexorable discipline of death." His brain has as yet developed no very adequate powers per se of fighting any infections, and man's now most powerful enemy, "the little bugs," have begun apparently to realise this. We see new diseases of the nervous system—either new in the full sense of the word, or perhaps they are being more readily recognised by our more competent neurologists. Post-vaccinal encephalitis is thus a new disease, encephalitis lethargica appears to be more and more playing havoc, and central nervous system complications after the specific fevers are being more often described. The following case, although the patient arrived in hospital more or less "cured," is, therefore, worthy of description.

Mary M——, aged 6, a little Irish girl, was admitted into Clinical ward with a history that two months before admission she had chicken-pox, definitely diagnosed as such by her doctor. The attack was apparently mild and she was only confined to bed for two or three days. Eight days after the onset of the illness her mother noticed one afternoon that she refused to play with her toys and complained of severe pain in her left hip region. That night she vomited several times, became markedly irritable, developed some neck rigidity and had a temperature of 103°. After that she had pains in the muscles of her limbs, arms and legs, which were very tender—rather suggesting that she had a polyneuritis. She resented examination, but her doctor assures me that she had no paralysis whatsoever. The neck rigidity persisted for about a week, and she ran an irregular pyrexia for about a fortnight. She was always perfectly conscious and never incontinent. Since then she has been kept in bed, and was apparently doing quite well, except for the fact that she had headaches, when on several nights before admission she suddenly sat up in bed screaming and clawing the air, and could not be pacified.

On admission she was rather a pale child, with marked wasting of her legs and arms. Her tendon reflexes were normal, her optic discs and cranial nerves were normal—in fact there were no actual abnormal physical signs. The chief thing she complained about—and she is a remarkably intelligent child—were her headaches, and she lay in bed crying and clasping her head. Since then she has more or less displayed a spirit of "negativism," refusing to take anything or to reply. Her colon, too, appears to have joined in the spirit of negativism, scorning large doses of various purgatives, and politely returning enemas. At night she is particularly restless and has what are known as "screaming fits"—suddenly shouting and crying for all she is worth. I gather this form of nocturnal excitement is apparently common in children with encephalitis. Her headaches, chiefly at night, are still present. On admission there was a large boil on her sacrum and a lumbar puncture was, therefore, considered inadvisable. It is interesting to note that lumbar punctures, hitherto recorded, except for a slight increase in the number of cells in one case, were within normal limits. These cases, except one fatal case in a woman of 32, have all occurred in children under the age of 8. The incubation period, as in this case, was more or less from 8 to 10 days, and as may be expected in cases with a diffuse encephalo-myelitis, the symptoms have varied with the site of the lesion. Thus as evidence of an encephalitis there may be monoplegia, diplegia or, as in a case at Guy's described by Rake, hemiplegia. The only evidence of an encephalitis in the above patient was shown by her headaches, the "negativism," and the nocturnal excitement. The presence of a myelitis may be shown by paralysis of the arm and back muscles as in Rake's case, or as in this case by a polyneuritis. Finally, as in the above patient, meningeal symptoms such as irritability, neck rigidity and vomiting may predominate. Complete recovery is almost the invariable rule in these patients.

As no autopsy has as yet been recorded the pathology is as yet a matter of conjecture. It seems not unlikely, however, that as in post-vaccinal encephalitis there may be patches of peri-vascular inflammatory infiltration—and as Rake suggests "the occurrence of a patch beneath the surface will be sufficient to produce a localised meningitis and symptoms of irritation."

Lastly, it is interesting in view of the much discussed question of the relation of Herpes Zoster and varicella that we here have a case showing the possibility of the views of varicella acquiring "neurotrophic propensities."

I am much indebted to Dr. Conybeare for permission to publish this case.

S. M. COHEN.

Too Good: A Warning to Nurses

Now, children, I'll tell you a story,
The tale of my life I'll confess;
Of how I attained to my glory,
My dazzling, amazing success.

I once was a beautiful nurse, dears,
I once was a sweet little lamb;
I learned how to flatter and curse, dears,
And so I became what I am.

Now when I was given a ward, dears,
I studied Miss Ashdown's large tome;
I was feared and revered and adored, dears,
They called me "The Light of the Home."

In Clinical, Job, Astley Cooper,
They knew me as charming and wise;
I was publicly thanked by the Super.
For being a credit to Guy's.

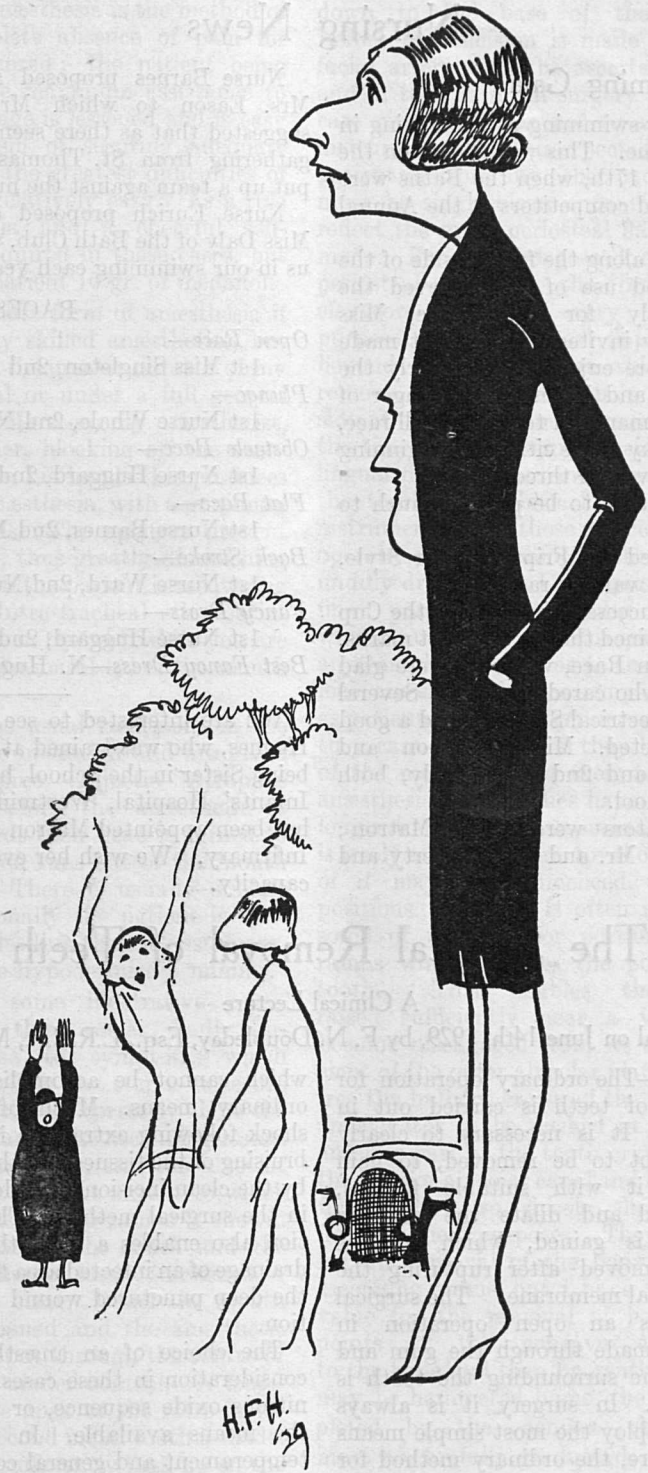
To her office one day Matron called me,
She offered at once to resign,
In her own sacred chair she installed me,
I hadn't the heart to decline.

The King got to hear of my virtue,
I nursed him with splendid success.
I said to him—"George, it won't hurt you
To make me a Royal Princess."

Of course, I could not stay a Matron—
I moved in a class all my own
With St. George and the Dragon for Patron
And a room to myself all alone.

When visitors come to the wrong room
Gillespie and I shake with mirth,
For they fly when I say it's the strong room
And I am the Queen of the Earth.

S. A.



"SUPER—NATURELLE"

Nursing News

Swimming Gala

ENTHUSIASM for swimming is not lacking in the Nurses' Home. This was shown on the evening of June 17th, when the Baths were filled by spectators and competitors at the Annual Gala.

The gallery running along the farther side of the Baths was made good use of and relieved the congestion enormously for the Judge, Miss Daly, and the specially invited visitors. It made the evening much more enjoyable. Formerly the Judge, with difficulty and in imminent danger of falling into the water, managed to see the full race, while visitors were lucky to see either the beginning middle or end, but never all three.

Lady Fripp was unable to be present much to our regret.

Mrs. Eason presented the Fripp Cup for Style, and the prizes for the various races.

Nurse Eurich was successful in winning the Cup and Nurse Huggard gained the next highest marks.

There was one Open Race, when we were glad to welcome any one who cared to swim. Several of the Massage and Electrical Students and a good many Nurses competed. Miss Singleton and Miss Osler came 1st and 2nd respectively, both from the Massage School.

Among the spectators were: The Matron; Mr. and Mrs. Eason; Mr. and Mrs. Doherty and Mr. and Mrs. Cook.

Nurse Barnes proposed a vote of thanks to Mrs. Eason to which Mr. Eason replied and suggested that as there seemed to be such a keen gathering from St. Thomas's Street they might put up a team against the nurses next year!

Nurse Eurich proposed a vote of thanks to Miss Daly of the Bath Club, who never fails to help us in our swimming each year.

RACES

Open Race—
1st Miss Singleton, 2nd Miss Osler.

Plunge—
1st Nurse Whale, 2nd N. Stainforth.

Obstacle Race—
1st Nurse Huggard, 2nd L. Gillhan.

Flat Race—
1st Nurse Barnes, 2nd N. Nockolds.

Back Stroke—
1st Nurse Ward, 2nd Nurse Nockolds.

Fancy Dress—
1st Nurse Huggard, 2nd N. Eurich.

Best Fancy Dress—N. Huggard.

WE are interested to see that Miss Mildred E. Hughes, who was trained at Guy's, and who, after being Sister in the School, has been Matron at the Infants' Hospital, Westminster for seven years, has been appointed Matron at the Leicester Royal Infirmary. We wish her every success in her new capacity.

The Surgical Removal of Teeth

A Clinical Lecture

at Guy's Hospital on June 14th, 1929, by F. N. Doubleday, Esq., L.R.C.P., M.R.C.S., L.D.S.

GENTLEMEN,—The ordinary operation for the removal of teeth is carried out in three stages. It is necessary to clearly see the tooth or root to be removed, to gain a secure hold of it with suitable forceps, and then to so bend and dilate the alveolar process that room is gained, which enables the tooth to be removed after rupturing the fibres of the periodontal membrane. The surgical removal of teeth is an open operation in which an incision is made through the gum and some part of the bone surrounding the tooth is deliberately removed. In surgery it is always correct practice to employ the most simple means available and, therefore, the ordinary method for the removal of teeth is the proper one to use whenever possible. Surgical removal is reserved for buried teeth and roots and for difficult removals which cannot be accomplished satisfactorily by ordinary means. Much of the after pain and shock following extraction is due to crushing and bruising of the tissues and this is generally lessened by the clean incisions and defined removal of bone in the surgical method. The open field of operation also enables a more thorough clearance and drainage of an infected area than is possible through the deep punctured wound of an ordinary extraction.

The choice of an anæsthetic is an important consideration in these cases. Local anæsthesia, a nitrous oxide sequence, or an ether sequence are the means available. In making a choice the temperament and general condition of the patient and the length and character of the operation must be carefully considered. When the patient is stolid or can be made indifferent to external

stimuli by drugs, local anæsthesia is the method of choice. With it, complete absence of pain for about two hours is secured; the patient being conscious can afford the maximum assistance to the operator; hæmorrhage is lessened and is easy to control; the problem of securing adequate light and vision, one of the greatest difficulties of the operation, is made relatively easy. As a rule I find local anæsthesia and a cheerful self-confidence all that is required in these cases, but occasionally I give the patient 10 gr. of medanol.

Nasal gas is an adequate form of anæsthesia if administered by a really skilled anæsthetist, but at present I prefer to do the greater number of my operations under a local or under a full general anæsthesia. Dr. A. D. Marston, my anæsthetist, gives an intra-nasal ether, blocking off the naso-pharynx with sponges, in his hands this produces a delightfully tranquil anæsthesia, with a minimum of discomfort afterwards. The sponges prevent the swallowing of blood, thus greatly diminishing the risk of vomiting when the patient is recovering from the anæsthetic. Intra-tracheal ether is inconvenient as the tube is in the way while you are operating. With the intra-nasal tubes the mouth is free.

The patients have the usual treatment in the nursing home before the operation and are given an injection of atropine (Injectio Atropinæ 3 minims) one hour before the anæsthetic is administered. Afterwards their head is turned to one side so that the blood runs out of the mouth and is not swallowed. There is usually a little hæmorrhage. If occasionally the patient is restless and there is more bleeding than is customary, I give injectio morphinæ hypodermica 5 minims.

Let me show you some illustrative cases. Take an example of a third molar, badly impacted and giving rise to symptoms which necessitate its removal. The first step is to secure adequate skiagrams which will correctly show the relation of the third molar to the ascending ramus and to the tooth in front of it, and the alveolar space between them, so that the extent to which the tooth is inside the ascending ramus is shown. The degree of inclination of the tooth and the character of its roots, whether fused, thickened or separate, must be made clear. When the mouth has been adequately cleaned and the anæsthetic administered, a stitch is put through the centre of the tongue so that it is under control. A longitudinal incision from the apex of the retro-molar fossa at the back of the second molar tooth is made. The incision must begin sufficiently high up on the ascending ramus and the end of it behind the second molar is best completed by a Syme. A second incision at right angles to this is carried down to the base of the alveolar process Before this incision is made the position of the facial artery must be ascertained by the fingers and in this, as in all surgery in the mouth, great care must be taken not to allow slipping of the instruments from unexpected movement of the patient or from any other cause. These incisions must be single clean cuts. The next step is to reflect the muco-periosteal flaps which have been made. For this purpose I employ a Clevedent periosteal elevator the ordinary right-angled elevators are also very suitable for this purpose. The periosteal flaps must extend just beyond the area of bone which it is intended to remove. The lingual flap is now sutured to the side of the tongue so that when an assistant pulls the tongue to the opposite side of the mouth the lingual flap is pulled away with it, thus exposing the tooth. The buccal flap I retract with my instruments. To those unaccustomed to surgical operating this stitching to the tongue may appear unduly drastic, but I can assure you that with the fine curved, non-cutting intestinal needle which is used the patient is generally unaware that anything has been done to their tongue. Under a local anæsthetic I do not employ this lingual suture as patients are apt to get nervous and to think that they cannot swallow if they have not full control of the movements of their tongue. Under local anæsthesia I sometimes have the lingual flap in a long suture, held by an assistant. When the bone is freely exposed the removal of the necessary parts of it may be commenced. These are in two positions. First, it is often necessary to remove some of the anterior portion of the ascending ramus which overlies the posterior part of the tooth. This enables the tooth to be raised sufficiently near a vertical position to become disengaged from its socket. Next, sufficient of the outer alveolar plate must be cleared to free the bulbous crown of the tooth, and to enable an elevator to be pushed in between it and the anterior part of the tooth crypt without injury to the inferior alveolar canal and its contents. I have found the two chisels shown of great use for both these purposes. They are really intended for the removal of the bone at the base of the ascending ramus, but I have found them of great value for the removal of bone anywhere. The points of the concave chisel are secured to the bone and then by gently increasing blows it may be hammered home, the incision being completed by the convex chisel. The blows must be carefully graduated. When, as occasionally happens, an aural surgeon lends me his hammer the alteration in weight makes an appreciable difference. Many operators prefer a steel

wheel or a stout burr for the removal of this bone. I use both occasionally but I do not think that they make such clean cuts as a chisel does; they get over hot in running and so injure the bone; they are liable to run off into the tongue or other soft parts and become firmly entangled causing considerable risk and injury to the parts during their removal. There is also a difference of opinion as to whether the outer or inner alveolar plate should be removed to free the tooth. Having tried both I am in favour of removal of the outer plate. It is the thicker one, as the external oblique line comes well down into its margin, but it is much easier to obtain access to it than to the inner plate and its surface is less slippery to work upon. Two stages of the operation have now been performed: (1) Reflection of the muco-periosteum; (2) Removal of bone. Now comes 3, the insertion of an elevator to raise the tooth. When the tooth has been sufficiently raised a pair of upper Reid forceps inverted will often effect its removal best. The crown of the tooth is firmly held and the tooth removed by an upward rotary movement of the wrist towards the midline. Any fragments of bone likely to irritate the wound or to become exfoliated are now removed, the wound is carefully cleaned and the muco-periosteal flaps sewn together with horse-hair sutures in the curved non-cutting needle. The ends of the sutures should be cut fairly short so that they do not irritate the tongue or cheek and they should be left in position for a week before removal. When the patient has recovered from the anæsthetic the wound is kept well irrigated with a Toynbee syringe and the following lotion—

R—

Acidi carbolici liquefactum	4 dr.
Glycerini	2 oz.
Tinctura Krameria	2 dr.
Aquam rosæ ad	8 oz.

Sig: One tablespoonful to a half tumbler of hot water, to be used as a lotion.

If there is much swelling a cold compress of lotio plumbi cum opio, or an icebag, applied over the angle of the mandible will speedily reduce it and give relief. It must be remembered that this swelling is traumatic and not septic. As will be seen from a typical chart there is no appreciable rise of temperature. Lotio plumbi cum opio is poisonous and the patients must be warned not to put it in their mouths. If there is much pain at night I give aspirin 5 gr., phenacetin 5 gr., repeated if necessary or medanol 10 gr. If there is much vomiting it is best met by giving the patient sodium bi-carbonate 10 gr., in warm water to drink, if this is not sufficient, tinctura iodi mitis 2 minims in water will help or as a last resource injectio morphinæ hypodermica 3 minims may be given. This last drug must of course only be given to a patient who is in bed (not to an out-patient) and it must not be given to children or to patients with renal or cardiac disease. As a rule, I keep my nursing home patients in for a week. The patients who are done under novocain anæsthesia go home and come up for daily syringing, using their mouth bath and a Toynbee syringe in the meantime.

A maxillary molar tooth needs removal less often, but it sometimes remains impacted and gives rise to symptoms. In these cases I make an incision over the maxillary tuberosity with the curved Symes scalpel and then reflect the muco-periosteum with ordinary right-angled elevators. A pair of Reid forceps may then be inserted and the tooth removed. Impacted canines sometimes require great skill in removal. The condition arises as the result of the displacement of the canine tooth germ through the premaxillary suture very early in life. The tooth lies in the palate, but its exact position and long axis is often uncertain. In such a case such information may be obtained by fixing a pin with sticky wax to the X-ray film, and then by carefully noting the position of the film in the mouth with the appearance of the pin and tooth in the resulting negative much information may be gained. Supernumerary teeth may also be located in this way and removed without injury to the neighbouring teeth. An incision is made in the long axis of the crown of the tooth, care being taken to avoid injury to the vessels coming out of the anterior palatine foramen or to the palatine artery and vein which run in a grove at the base of the alveolar process. A flap of muco-periosteum is now turned back and the bone on either side of the crown of the tooth removed with a burr. A pair of forceps may now be inserted on either side of the crown and the tooth removed by rotary movements of the wrist.

The location and removal of buried roots bring this subject more directly into the field of general practice. Two vertical incisions are made and the muco-periosteum turned back. A freshly boiled rose head drill is now run through the outer alveolar plate, an elevator is inserted, and with a turn of the wrist the root is pushed up to the surface. Any broken and jagged portions of the outer alveolar plate are now removed, and the wound is closed with a horse-hair suture. This

method of removing buried roots secures far better results than can be obtained by the older methods. In driving down for a root with forceps there is unavoidable tearing and laceration of the gum and bone which often causes persistent pain and discharge for weeks. With a clean surgical operation the wound is healed and the patient comfortable in a few days. The certainty of having cleared up the whole trouble by the open operation is a great satisfaction both to the surgeon and to the patient.

Complications.—In 99 per cent. of the cases which I have done regularly since the war the complications have been very minor, only such after pain and swelling as one would expect; suppuration is almost unknown. I have, however, had two or three really serious mishaps and these I want to faithfully record.

On May 11th, 1922, I was consulted by Miss N., who was out of health and who was troubled, among other things, by two unerupted and impacted lower third molars. As the patient's general condition was not good and as the teeth were not, in my opinion, a principal cause of her condition, I advised her to wait their further eruption. I saw her for conservative treatment 35 times during the next year so that I got to know her pretty well. Early in April, 1923, her doctor told me that he thought her wisdom teeth were really damaging her health and that she was worrying about them. I, therefore, took her into a nursing home and removed them both. The operation was fairly, but not unduly difficult. I sat down on the operating stool well satisfied and watched the nurse washing up the patient's face. Suddenly, to my horror, I saw the mandible was displaced and realised that it was fractured. The anæsthetist and I had been discussing the possibility of fracture during the whole time of the operation and from time to time had examined the jaw most carefully. The possibility had been always present to our minds, but we had felt no yielding and heard no sudden crack. On examination the mandible proved to have fractured through the crypts of the teeth on each side. I do not doubt that what had occurred was this. The girl was delicate and had a lightly built mandible. The removal of the first tooth weakened this and the slight leverage necessary to remove the remaining third molar caused the whole of the horizontal ramus to come away from the ascending rami like a piece of broken biscuit. Realising that at the moment nothing could be done I bandaged the patient, put her back to bed and took a car to her father's house and told him what had occurred. I offered to hand the case over to any other practitioner they chose to call in. On the next day when the family had had the chance of discussing the matter, they very handsomely said that they preferred the case to remain under my care. I therefore called into consultation my colleagues Mr. Lewin Payne and Mr. E. C. Hughes, that we might ensure every measure likely to secure a good result. Fortunately, in accordance with my usual custom, I had taken good record impressions before operation. Cap splints were made to these models and the patient made an uneventful recovery securing union on both sides. In the *British Dental Journal* of July 2nd, 1923 I have illustrated a case where two horizontally placed third molars were removed at one time, without incident, and I have done many successful cases since. In the only other serious accident the patient was a small woman with a short fat neck and her wisdom tooth was deeply buried, lying beneath the tonsil. In this case while operating I divided the lingual nerve in gaining access to the place where the tooth lay. The patient suffered no major disability, but it has led me to favour the external routes where the danger of damage to surrounding structures is less and where one can command a better view of the field of operation. It cannot be too strongly emphasised that in all cases the administration of the anæsthetic makes a great difference to the result and must be most carefully considered before the operation is undertaken.

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Handbook of Bacteriology. By JOSEPH W. BIGGER, M.D., Sc.D. (Dublin). Published by Messrs. Baillière, Tindall & Cox. *Price* 12*s.* 6*d.*

WALTER HAGEN is an expert showman. Dr. Bigger eulogises the qualities of his *Text Book of Bacteriology* in the preface to this the second edition. In common they both "produce the goods" and are permitted these liberties.

The ease with which this book can be read is the strong tree upon which the student may comfortably hang himself. The hesitant inception of knowledge that occurs with a more detailed book or likewise a cram book is a constant invitant. Despite the psychologists we favour the comfort of fluency.

The choice of material is good. The illustrations in many cases could be improved. The large number of excellent photomicrographs of organisms that are now available should tempt Dr. Bigger to replace his somewhat sketchy pictures, unless this would necessitate a material increase in the price of the book.

We should like to join the reviewers of the first edition in recommending this as the best students' "Bacteriology." L.W.C.

A Text-book of Surgical Diagnosis. By A. J. WALTON, M.S., F.R.C.S. Published by Messrs. Arnold & Co. 2 Vols. *Price* 63*s.*

IN the preface to this book, the editor emphasises the necessity of greater attention to the history and clinical findings in surgery, fully realising the menace of too great a reliance on laboratory investigations. Hence this book is produced with that end in view—the teaching of clinical surgery and diagnosis. Treatment is rigidly excluded. Amongst the authors we find the names of Mr. Turner and Mr. Hughes, writing on specific infections, chronic ulceration and gangrene.

The two serious criticisms are those of price and illustration. For the student and many practitioners, three guineas will be considered too much for what is a specialised text-book. There are no coloured pictures, which are always so valuable although costly. But the reproductions of photographs are, in many cases, bad, and do not illustrate the points to be demonstrated. This is disappointing, because there are many illustrations, and one rather gathers that the originals were of very good cases. In some places free-hand drawings are used, surely hardly up to the high ideals set forth in the preface. The book will be of most value to those who have already obtained two or three years' clinical experience.

With separate authors for special subjects, some degree of repetition is inevitable, but it is very marked in places. Most noticeable is this in the section upon fractures, where many are again dealt with in more detail in injuries to joints. The former section is rather scanty; Bryant's triangle and Nelaton's line are mentioned, but no description of them and their applications appears until much later (pp. 303–381). And surely when dealing with differential diagnosis, a list of conditions exhibiting Trendelenburg's sign should not be curtailed with etc.

One is tempted to join issue on the description of fractures of mandibles and their displacements. Colles' fracture has nearly always backward rotation as well as the other displacements mentioned, whilst "backfire" fractures are due to indirect force, and the lower fragment is displaced dorsally.

Dupuytren's contracture and Volkmann's ischæmic paralysis are both illustrated by very poor sketches (Figs. 136 and 139) whilst the complication of the flexion treatment of elbow fractures by a "Volkmann" is unmentioned.

Amongst the best sections in Vol. I are those dealing with tetanus, gangrene, diseases and injuries of joints, the spinal cord, and brain and skull.

Passing to the second volume, one is surprised to find the term cardiospasm still appearing, and

that congenital hypertrophic pyloric stenosis in infants is not yet regarded as a pyloric achalasia, with hypertrophy only of the muscle of the pyloric end of stomach. Apart from a few tabulated remarks, the section on diseases of the breast will leave the student of surgery completely confused concerning the pathology and differential diagnosis of lumps in the breast. Such an array of long names is more suited to a monograph than a text-book of surgery.

Lesions of the intestines is the best chapter in Vol. II, whilst pancreatitis, visceroptosis and diseases of the lungs and pleuræ are thoroughly treated. This volume seems to drive home the essential facts more firmly than the other; but one was disappointed in finding no adequate account of subphrenic abcess.

The art of teaching differential diagnosis is a realisation of the very dramatic qualities presented by an ill patient or his lump; combined with the ability suitably to emphasise the right points, without confusion by too great a wealth of detail. How well exemplified this is in the section on appendicitis, and the quotation from Barnard on intestinal obstruction (p. 872). D.W.C.N.

A Text-book of Pulmonary Tuberculosis for Students. By R. C. WINGFIELD. Published by Messrs. Constable & Co., 1929. *Price* 30*s.*

NO one will doubt that a disease like pulmonary tuberculosis, with its high mortality rate and almost universal incidence, merits a text-book of its own and after reading it one realises that the author's personal and long experience and extensive clinical researches amply qualifies him to present a practical treatise on the subject.

The book is so well balanced and complete that it is impossible to criticise it except on minor points. That mitral stenosis should be omitted from the long list of causes of hæmoptysis on page 126 is regrettable. The evidence that ischio-rectal is practically always a manifestation of phthisis is a much disputed point and we would rather accept the evidence to the contrary which is gained outside a Sanatorium. We regret the author has given practically all the points against the tuberculosis colony (citing Papworth as his example) without mentioning the undisputed fact that not a single child born in the colony has died of tuberculosis.

The author is obviously no believer in "laissez faire." His treatment by thoracoplasty for spontaneous pneumothorax which does not absorb seems drastic although justified by his experience. We cannot but hope that he continues to find sanocrsin a definite adjunct to general treatment.

The book has one drawback in costing 30s. We feel that this should be reduced by excluding most of the X-ray photographs which do not show to advantage when reproduced. In addition to the advice that the student should visit a good museum to acquaint himself with the pathology of the disease, he should also be told to spend a short time in an X-ray department where better radiograms can be seen than those in the book. There seems no more need for them than for pictures of pathological specimens.

These minor criticisms cannot detract from the excellent quality of the book. It is rare to be able to read a book from cover to cover written in clear and pleasing language and illustrated by personal experience that few people have had the privilege of having and still fewer of using so advantageously as the author. We are certain that the general practitioner of the present day who wishes to keep abreast with the times cannot do better than have this book at his finger-tips. R.E.S.

Recent Advances in Neurology. By W. RUSSELL BRAIN and E. B. STRAUSS. Published by Messrs. J. & A. Churchill, Ltd. *Price* 12*s.* 6*d.*

CORRESPONDING with its highly specialised function the physico-chemical structure of the central nervous system would appear to be so entirely different from the rest of the animal organism as to ensure a completely separate and at the same time highly intriguing pathology. Neoplastic or inflammatory disorder alike present such unique features in their connection with nervous tissue that although the anatomical spade-work has long been completed it is only in recent years that the contributions of other workers—the physiologist, bacteriologist, psychologist, statistician, and so on, have reached such proportions as to merit collection and co-ordination into a compact form.

This well-timed review of the neurological position has proved a fascinating and instructive business in the hands of the authors of the latest addition to the popular Recent Advances series, and their admirably balanced survey of the newest clinical and experimental work constitutes an adequate reply to the accusation frequently made that this particular branch of medicine is in essence nothing more than the practice of diagnostic localisation made possible by expert acquaintance with the anatomy of the part concerned.

The book covers a great deal of ground in the course of its twenty chapters, but the criterion of clinical application mentioned in the preface appears to have been rigidly adhered to in making the difficult decision as to what to include in a discussion of recent research. A preliminary chapter on the physiology of the cerebro-spinal leads naturally to a consideration of the various diagnostic punctures, the uses of lipodol, and the problem of hydrocephalus. The subject of increased intra-cranial

pressure forms a convenient introduction to an extensive discussion of intra-cranial tumour with value of such procedures as ventriculography and encephalography assessed in a very valuable way. To the treatment of increased intra-cranial pressure with hypertonic solution an entire chapter has been devoted, and a very fair case made out for a radical change in the methods at present generally used in connection with cerebral contusion. A more physiological section follows in which posture and tonus and their connections with cerebellar function and the extrapyramidal syndromes are fully discussed together with other subjects like the pituitary body, conditioned reflexes, sleep and sensation, all of which are more or less still *sub judice*. An extremely interesting account of the neurotropic viruses and their many manifestations follows. The present position with regard to the question of post-vaccinal encephalitis is excellently summed up while modern knowledge regarding epidemic encephalitis is collected and presented in a highly convenient form. Chapters on miscellaneous neurological diseases, intravertebral treatment, therapeutic malaria, the ketogenic diet in epilepsy, and the use of deep X-ray therapy bring the book to its close. An appendix contains cerebro-spinal fluid pictures in various common neurological conditions.

It will be seen that in addition to presenting an exhaustive review of recent work in one branch of medicine, this book has a practical value as a work of reference and is likely to be extremely useful to all connected with the treatment of nervous disease.

Sport

Cricket Club.

Guy's v. Catford Wanderers

THIS match was played at Catford on Wednesday, June 12th, and resulted in a win for our opponents.

Scores—Guy's, 144 ; Catford Wanderers, 162.

Guy's

S. R. Peatfield, c. Hall, b. Hook	31
W. H. Lewis, run out	7
T. D. Ridsdale, b. Hook	10
E. V. B. Widdowson, st. ——, b. Hook	6
J. A. G. Starnes, c. & b. Henderson	22
R. J. Eustace, b. Hook	0
D. J. Rees, c. & b. Brachner	40
L. E. Marshall, c. & b. Brachner	4
G. Barwell, c. Hook, b. Brachner	13
S. M. Whitteridge, not out	0
E. Woodivis, b. Henderson	0
Extras	11
Total	144

Catford Wanderers

K. Brachner, run out	13
W. Hall, b. Woodivis	13
A. Boenden, b. Whitteridge	18
N. Allen, c. W. H. Lewis, b. Whitteridge	1
W. Best, l.b.w. b. Barwell	40
W. Baker, l.b.w. b. Barwell	17
R. Henderson, c. ——, b. Rees	9
C. Langford, not out	19
L. Hook, not out	20
Extras	12
Total	162

Bowling—Woodivis 1 for 43, Rees 1 for 35, Barwell 2 for 19, Whitteridge 2 for 43.

Guy's v. Bromley

THIS match was played at Sundridge Park on Saturday, June 15th, and won by Bromley.

Scores—Guy's, 133 ; Bromley, 193 for 5.

Guy's

S. R. Peatfield, b. Stone	23
W. H. Lewis, c. Fraser, b. Stone	0
E. V. B. Widdowson, c. Stone, b. Yoland	11
J. A. G. Starnes, b. Stone	12
G. J. Clarke, l.b.w. b. Stone	1
J. Durr, c. Cheery, b. Stone	7
D. J. Rees, b. Stone	0
H. Cameron, not out	45
T. D. Ridsdale, c. Hill, b. Stone	2
J. R. F. Popplewell, b. Cheery	6
J. P. O'Shea, b. Stone	12
Extras	14
Total	133

Bromley

J. R. Short, c. Durr, b. Clarke	28
D. H. Marston, b. Durr	0
I. J. Fraser, c. Rees, b. Clarke	32
F. C. Speed, c. Popplewell, b. Rees	21
P. S. McDougall, st. W. H. Lewis, b. O'Shea	55
T. Brown, not out	45
Extras	12
Total (for 5 wickets)	193

Bowling—Clarke 2 for 36, O'Shea 1 for 33; Durr 1 for 69.

Guy's v. Wellingboro' Masters

PLAYED at Wellingboro' on Wednesday, June 19th, and won by the Masters.

Guy's

S. R. Peatfield, b. Richmond	9
H. Cameron, b. Johnson	0
T. D. Ridsdale, b. Whiteley	53
J. A. G. Starnes, c. Richmond, b. Johnson	17
G. J. Clarke, c. Lebbitt, b. Richmond	1
R. J. Eustace, c. Barrett, b. Richmond	9
E. V. B. Widdowson, c. Johnson, b. Mules	5
A. J. D. Lewis, c. Mules, b. Whiteley	31
D. J. Rees, c. Lebitt, b. Whiteley	2
R. Outfin, b. Needes	30
J. P. O'Shea, not out	24
Extras	16
Total	197

Wellingboro' Masters

H. Barett, c. Rees, b. Lewis	51
G. Lebitt, c. Rees, b. O'Shea	74
P. Little, b. O'Shea	13
J. R. R. Richmond, c. Widdowson, b. O'Shea	6
A. Whiteley, c. Outfin, b. Cameron	97
C. L. F. Cox, c. Rees, b. Cameron	0
A. Barrett, not out	1
Extras	16
Total (for 6 wickets)	258

C. T. Rudd, G. J. Johnson, P. Needes and F. J. Mules did not bat.

Bowling—O'Shea 3 for 35, Cameron 2 for 18, Lewis 1 for 49.

Guy's v. Catford Wanderers

THIS match was played at Honor Oak Park, on Saturday, June 23rd, and resulted in a drawn game.

Guy's

R. J. Eustace, c. & b. Henderson	0
J. A. G. Starnes, c. Henderson, b. Everett	37
T. D. Ridsdale, b. Everett	8
G. J. Clarke, b. Everett	1
A. J. D. Lewis, b. Everett	1
D. J. Rees, b. Henderson	5
E. V. B. Widdowson, l.b.w., b. Everett	33
R. Outfin, c. Everett, b. Langford (Sen.)	25
J. P. O'Shea, c. Evans, b. Langford (Sen.)	0
G. Barwell, not out	17
L. Fairfax, not out	1
Extras	15
Total (for 9 wkts.)	143

Catford Wanderers

L. Seare, b. O'Shea	0
J. Evans, b. Rees	13
A. Simpson, b. O'Shea	74
C. W. Langford (Jun.), b. O'Shea	42
E. Bracher, b. O'Shea	22
H. Everett, b. O'Shea	9
S. Lea, not out	4
Extras	8
Total (for 6 wkts.)	172

Bowling—O'Shea 5 for 45, Rees 1 for 62.

Lawn Tennis.

2nd Round Inter-Hospital Cup

Guy's v. King's College

IN this match, played at Honor Oak Park on Wednesday, June 12th, Guy's beat King's by 8 matches to 5, and thus revenged our defeat last year.

Of the singles, Guy's won 3 and lost 2. Bruce Pearson and Harson, the respective first strings did not play. Gaitskell was unfortunate in finding his opponent on top of his form and did not get going till it was too late. Mailer won a decisive victory, being obviously a class above his opponent. Sharpe had some difficulty in winning the first set during which he was rather erratic, but he improved to win the second with the loss of only 1 game. Hollis was handicapped by the wet surface of the court, but in spite of this should not have been beaten. Day had a fairly easy match against the last string, winning in two straight sets.

In the doubles Mailer and Sharpe played well together, while Pearson and Gaitskell were not at their best and failed to show their true form against King's first pair. Day and Hollis should not have lost against the third pair; their match against the first was unfinished as the rubber had already been won.

Results

Gaitskell lost to Crosswell 1–6, 4–6.
Mailer beat Knox 6–2, 6–2.
Sharpe beat Bateman 9–7, 6–1.
Hollis lost to Snowball 7–9, 3–6.
Day beat Harding 6–0, 6–4.

Pearson and Gaitskell—
- Lost to Hassan and Cogswell, 3–6, 2–6.
- Beat Knox and Bateman 6–2, 6–1.
- Beat Harding and Snowball, 6–2, 6–1.

Mailer and Sharpe—
- Lost to Hassan and Cogswell 1–6, 6–8.
- Beat Knox and Bateman 6–1, 6–1.
- Beat Harding and Snowball 6–1, 6–2.

Day and Hollis—
- Drew with Hassan and Cogswell, 11–10.
- Beat Knox and Bateman, 8–6, 6–2.
- Lost to Harding and Snowball 6–4, 5–7, 2–6.

2nd Round Junior Inter-Hospital Cup
Guy's 2nd VI v. King's College 2nd VI

THIS match was played at Denmark Hill, on Wednesday, June 12th, and resulted in a comfortable win for Guy's by 11 matches to 4.

Results

Min Sein beat Tickler 6–3, 6–0.
Holman beat McClintock 11–9, 6–2.
Cowen beat Parfit 8–6, 6–3.
Zorab beat Cummings 6–4, 6–4.
Housden beat Easton 3–6, 6–2, 9–7.
Robinson lost to Summerhayes 6–3, 4–6, 6–8.

Holman and Cowan—
Beat Tickler and McClintock 6–4, 1–6, 6–3.
Lost to Cummings and Parfit 3–6, 4–6.
Lost to Easton and Summerhayes 4–6, 8–6, 4–6.

Housden and Min Sein—
Beat Tickler and McClintock 6–2, 6–1.
Beat Cummings and Parfit 6–3, 6–1.
Beat Easton and Summerhayes 6–4, 6–4.

Zorab and Robinson—
Beat Tickler and McClintock 6–4, 6–1.
Beat Cummings and Parfit 7–5, 3–6, 8–6.
Lost to Easton and Summerhayes 4–6, 3–6.

Hospital Information, etc.

Pass List

SOCIETY OF APOTHECARIES OF LONDON
June, 1929
Surgery : S. R. G. Pimm.
Medicine : C. Hortop.

UNIVERSITY OF CAMBRIDGE
M.Ch.
Easter Term, 1929
J. Gray

THIRD EXAMINATION
Part I
I. B. Morris

CONJOINT BOARD
DIPLOMA IN PUBLIC HEALTH
April, 1929
G. Covell

Notices

CLUBS' UNION

A BLUES Committee Meeting will be held on Thursday, July 4th at 1.30 p.m., in Room 33 in the College.

Will each section of the Clubs' Union please send two representatives.

MEDICAL SCHOOL
TREASURER'S GOLD MEDAL FOR CLINICAL MEDICINE, JUNE, 1929.

The following awards have been made :—
R. S. Bruce Pearson, Medal.
W. J. Ferguson, Certificate.

TREASURER'S GOLD MEDAL FOR CLINICAL SURGERY, JUNE, 1929.

The following award has been made :—
W. J. Ferguson, Medal.

DENTAL SCHOOL
PRIZE FOR OPERATIVE DENTAL SURGERY, 1929.

The following awards have been made :—
J. A. C. Hunter, Prize £10.
A. F. de Villiers, Certificate.
J. F. Lockwood, Certificate.

Change of Address

C. Robert Rudolf, L.D.S. Eng., 21, Portland Place, W.1.

Graham C. Campbell, Hill House, Great Square, Braintree, Essex. 'Phone : Braintree 263.

A. H. Douthwaite, 49, Harley Street, W.1. 'Phone : Langham 3473.

Papers by Guy's Men

Leslie J. Witts, M.R.C.P. Blood Transfusion: Fatal Reaction ; *Lancet*, 1929, *i*, 1297.

Sir William Hale-White, K.B.E., M.D. The Withering Letters in the Possession of the Royal Society of Medicine. *Proc. Roy. Soc. Med.*, 1929, xxii, 1087, Sect. Hist. Med., 37.

W. M. Mollison, M.Ch. Œsophageal Obstruction, probably Traumatic, treated by Gastrostomy and Retrograde Dilatation by Multiple Silk Threads ; Improvement, *Ibid.* iv, Sect. Laryngol. 29.

—— Specimen of Carcimona of the Œsophagus, treated with Diathermy ; Gastrostomy ; Death, *Ibid.* 1115, *Ibid.* 33.

O. Gayer Morgan, F.R.C.S. Cerebro-Macular Degeneration (?), *Ibid.* 1017, Sect. Ophthal 55.

W. H. Ogilvie, M.Ch. Summary of Recent Work on Bone Tumours, *Ibid* 1059, Sect. Orthopæd 31.

Births

HUDSON.—On April 9th, 1929, at "Glenfield," 431, Pinner Road, Harrow, to Adelaide, wife of James A. Hudson, L.D.S., R.C.S. Eng.—a daughter.

BRAUN.—On 29th May, 1929, at Cape Town, South Africa, to the wife of Martin Braun, B.A. (Cap.), L.D.S., R.C.S. (Eng.)—a son.

Marriage

THURLOW—GIBBONS.—On June 7th, 1929, at Salisbury Cathedral, Rhodesia, Walter Edward Thurlow, of Bindura, Rhodesia, to Winifred Mary, daughter of Mr. and Mrs. Joseph Gibbons, of 74, Thurlow Park Road, Dulwich, S.E.21.

Death

SHELTON-JONES.—On Saturday, June 15th, 1929, Ernest Shelton Jones, at Erylfryn, Pwllhelli, Carnarvon.

EDS. {O. P. E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLIII — *13th July 1929* — *Number 1069*

PASSIM

DURING the past few months radium has leapt so rapidly into the surgical limelight that we contemplate with intense interest, not to say curiosity, the advent of a speck or so of this remarkable substance that is destined to run a century or more of useful degeneration in the service of this hospital. Already there are abundant signs of elaborate preparation for its arrival. The royal particle requires both a carpet and a canopy, but of such leaden consistency as to temper the prodigal blaze of its energy to those who are to guide its efforts. With a private suite in an immense safe designed to break the heart of any burglar, a new palace adjacent to the present home of the diathemy it would seem likely to depose, and for personal servant a lady of infinite qualities to be styled Sister Radium, what more could even the elect among elements desire?

When we come to speculate on the qualities necessary in the official guardian of this expensive addition to our therapeutic resources, we are convinced that no male person was ever fitted for such a task. The post obviously demands not only the adoption of complete responsibility for a very valuable property and the acquirement of considerable skill in the complicated technique of its transport, but also a continual effort to ensure a complete and profitable employment of the precious energy which it never ceases to emit. That type of mind which can master the intricacies of a ward equipment, tackle the thousand problems of a medical kitchen, tactfully curb the reckless profligacy of an impatient surgeon, and yet turn not a hair in the course of the whole business, is not a common possession, and where, other than in the average sister, there could be found that delicate blend of merciless economy, calm judgment, and impeccable efficiency inseparable from such an office, we are completely at a loss to imagine.

Although Guy's may not claim the position of a pioneer in the use of this new ally in the war against malignant disease, we have at least the advantage of long familiarity with a very similar weapon, the X-ray of short wave length. It is just conceivable that the two agents may be used in conjunction in the treatment of the susceptible squamous-celled tumour and its secondary deposits. At any rate, pending the discovery of those prophylactic measures to which the whole medical profession looks forward, it would seem probable that our hitherto clumsy surgical offensive against established new growth may, in the very near future, be converted into a much more skilful and effective campaign.

▭

BY his appointment to the Council of St. Thomas's Hospital Medical School as a representative of the University of London, Dr. Fawcett has created a local record, being the first Guy's man to sit on the Board of both Schools. This is of particular interest in view of the historic association of the Medical Schools of Guy's and St. Thomas's.

▭

THAT most energetic body, the Musical Society, is showing distinct signs of activity again. In November next four performances of "H.M.S. Pinafore" will be given at the Guildhall School of Music, and rehearsals for this have been in progress for the past two months. There will now be a temporary lull in the musical proceedings until September, when the support of new members will be very welcome. We feel confident that the Society will be as nautical in November next as they were piratical in December last.

It is not often that we are roused into an expression of admiration for any of our contemporaries, but we do feel moved to congratulate the Editorial powers that be at King's College on the centenary issue of their Review. This strikes us as being an altogether admirable piece of journalistic opportunism. Encased in a delightful cover by "Fougasse" in his most inimitable manner, is a collection of articles and verses relating to King's College, its neighbourhood and its inmates, specially contributed by many famous people, scientists, classicists, historians, politicians and soldiers, all either past students at King's or at present connected with the College. Having ourselves some experience of getting busy men to contribute the flowers of their wisdom and experience, we realise the more fully how hard the Editorial Staff must have worked to produce such an excellent result.

There has been recently a perfect orgy of inter-hospital sport of one kind or another. At the Bath Club, while losing the water-polo for the first time since the war, we won swimming, diving and team-race events. Both Sixes have won their way to the final for the Lawn Tennis Cups, which are still to be played as we write this. The cricket 2nd XI are now in the semi-final round for the Junior Cup, thus helping to obliterate the early dismissal of the 1st XI in the Senior Cup. Finally, the Nurses' Tennis team, by beating St. Thomas's for the first time on record, have achieved a place in the semi-final of their inter-hospital competition. We apologise if we have overlooked any of the multifarious athletic activities at present flourishing at Guy's. We have certainly failed to mention a few less glorious achievements, but our very brief résumé may serve to show that we can still take our pleasures seriously.

The following have been appointed Clinicals for the period July 16th to October 16th :—

Mr. P. F. M. Bishop.
Mr. R. S. Bruce-Pearson.
Mr. C. F. Cosin.
Mr. H. G. McGregor.
Mr. H. Richards.
Mr. S. J. Wheeler.

Obituary

EMILE JOHN FRANK HARDENBERG

On July 2nd an old Guy's man, well known to and loved by his contemporaries and many others, died peacefully in his sleep at Chingford, whither, although retired from practice there for some years, he had returned for a short time to be among his friends and former patients. Born in 1877 in Holland he came to England at the age of four. He was educated at Forest School and Guy's. After certain delays, due to a broken leg and a bad attack of typhoid fever, he qualified M.R.C.S., L.R.C.P., in 1901. Before taking up practice at Chingford he was a ship's surgeon and Senior R.M.O. to the North-West London Hospital. At Chingford he was Medical Officer of Health, Divisional Surgeon to the Metropolitan Police and Post Office Medical Officer. He also held a temporary commission in the R.A.M.C. in 1918. Hardenberg was a general practitioner of the very best type, and the writer of this note, who knew him intimately as friend and colleague and who also had the privilege of attending him in times of ill-health and meeting many of his patients, will ever remember him affectionately and cherish recollections of the high and grateful esteem in which he was universally held. His patients loved him. Many of them felt completely at a loss when, through failing health, he was compelled to retire from practice, and his subsequent visits to Chingford were always the occasion of happy reunions with those in whose households he had been regarded as family friend as well as physician. Sound and careful in his work and successful in his practice he was nevertheless most humble about his own attainments. His partner, Dr. E. Billing, describes him as "a great worker, level-headed and practical, a very loyal colleague and quietly generous." He speaks of him as "one of the leading characters at Chingford, retaining even after five years of retirement the affection of a large circle of friends." Hardenberg was unmarried. He spent much of the last few years of his life in travelling abroad, especially in New Zealand, and it was always his mission and pleasure to look up the Guy's men in practice there. He died as he would have wished, and, although he had reason to fear that his end might come more slowly and with more distress, he had faced the future courageously. Few among his acquaintances knew the jeopardy in which he had walked during the last few years of his life, for his cheerful countenance and kindly address were a mask to his inner feelings. Just occasionally he lamented his lack of a home and family. It was, therefore, a kindly circumstance that brought him from across the sea to spend his last hours on the scene of his labours and in the home of many friendships.

On Hepatitis

A Clinical Lecture by Dr. L. J. Witts

" It is not uncommon to find persons inclined to make light of an attack of jaundice if the pain or inconvenience attending it is not such as to prevent them altogether from pursuing their usual occupations. Nothing, however, can be more injudicious; and it is the duty of the practitioner to impress this upon his patient; for it can never be a matter of slight importance, that either obstruction or inflammatory action should exist in the intimate structure of a secreting organ, still less in an organ so delicately complex as the liver; and there is no reason to doubt that although, even without treatment, an attack of this kind may pass off, the liver will be some time before it has completely recovered; and thus a tendency to relapse, or to a renewal of the complaint, may occasionally be observed, showing itself at longer or shorter intervals throughout life, and terminating, at length, in the destruction of all the powers of the stomach, he ulceration of the colon, miserable emaciation or universal dropsy."—Dr. Bright on Jaundice, Guy's Hospital Reports, 1836, 1 ; 613.

CATARRHAL JAUNDICE.

THIS is the commonest form of jaundice in Great Britain. It occurs most frequently in childhood and adolescence. The first symptoms are fever and malaise, appetite is lost and nausea and vomiting occur. Later jaundice appears, the fæces are putty-coloured and offensive and the urine bile-stained. The liver and the spleen may be enlarged. It is usually a relatively trivial condition and convalescence is established by the end of a week though it may be four or five weeks before the jaundice completely disappears. There is rarely, therefore, an opportunity of discovering the underlying pathological condition, but there can be no doubt that several different diseases are included under catarrhal jaundice. The majority of the cases seem to be due to a gastro-enteritis with ascending infection of the biliary tract and hepatitis. In the early stages the jaundice is probably obstructive, but later it is due to the damage to the liver cells. It is not unusual for several children in a family to be affected at the same time as if by a common infection. But where definite epidemics of jaundice occur, Weil's infective jaundice (spirochætosis icterohæmorrhagica) should be suspected. The spirochæte is excreted in the urine and rats may act as carriers. Infection occurs through ingestion of contaminated food or, perhaps, directly through the skin and on this account epidemics are likely to occur amongst soldiers in the trenches and miners working in wet mines. The liver and the spleen are not usually enlarged, and hæmorrhages occur in most of the cases. The diagnosis can be confirmed by inoculation of guinea-pigs with blood during the first few days of the infection and afterwards with urine. Not all epidemics of jaundice are spirochætal. Wessel has recently described a series of cases in which there was considerable swelling of the liver and severe colicky pain. Operation was carried out in a number of the patients and a hepatitis was found. The bile was sterile, no stones were present and microscopic sections of the liver showed an inflammation which principally followed the portal vein and now and then extended right into the lobules. The spirochæte was not found.

Other cases of catarrhal jaundice are due to pancreatitis with compression of the common bile duct. This should be suspected if the liver is much enlarged and the gall bladder is palpable. There may be epigastric pain at the onset, pancreatic ferments are absent from the juice obtained by washing out the duodenum and other signs of pancreatic block may be found. It is becoming increasingly clear also that some of the cases diagnosed as catarrhal jaundice are really examples of acute yellow atrophy of the liver ; some of these clear up completely, while others drag on to die a few months or years later from cirrhosis or its complications. Indeed, catarrhal jaundice is often little more than a provisional diagnosis and one should always bear in mind the possibility of toxic jaundice, pancreatitis or cirrhosis of the liver.

The average case of catarrhal jaundice, however, tends to get rapidly well and little treatment is necessary. The diet should be farinaceous, protein and fats being avoided. The bowels should be kept open by magnesium sulphate given in concentrated solution in the morning when the stomach is empty, and Fel Bovinum, an old-fashioned remedy which is believed to promote the excretion of bile, may be given in doses of 10 grains three times a day.

ACUTE YELLOW ATROPHY

Like catarrhal jaundice, acute yellow atrophy commonly begins with diarrhœa, vomiting or other evidences of gastro-intestinal upset, and it is only the subsequent course that differentiates it from the milder disease. Jaundice persists and the patient becomes apathetic and somnolent. He complains of abdominal pain, rarely severe, which is usually of indefinite distribution though it may be localised over the liver. There is sometimes great thirst and the breath has a peculiar odour like acetone, though no acetone may be present in

the urine. Vomiting recurs and the ejected material may contain "coffee-grounds" or be frankly bloody. Epistaxis is frequent, there may be hæmorrhages from the bowel, the uterus and other mucosæ, and petechial hæmorrhages or wide sugillations of blood appear under the skin. This phase of the malady is of variable duration, from a few days to several weeks, and it gives place to a second and terminal stage lasting not more than a week in which the symptoms are suggestive of cerebral irritation. In children the condition is characterised by a loud cry, coma alternating with restlessness, twitching and an extensor plantar response. Palatal paralysis has been noted. The pupils are dilated, there is wild excitement and the child has been compared to "some terror-stricken animal in its cage." In adults there is not so clear a picture. Coma and restlessness are present, and there is, in most cases, an extensor plantar response. Irritability and delirium may be present, but it is less characteristic than in the children. There is a rapid deepening of the jaundice, and in almost every case there is hyperpyrexia just before death. The duration of the disease is very variable and in 13 cases of which I have notes it varied from 36 hours to 12 weeks, with an average of four weeks. In acute cases the patient may even succumb before jaundice has developed. In cases of longer duration the symptoms may remit for a time, but this apparent recovery is soon belied by the recurrence of jaundice and vomiting. Such cases form a link with the subacute yellow atrophy of the liver to be described later. The liver is observed to decrease in size as the disease progresses, though there may be apparent enlargement in the early stages. The spleen is nearly always enlarged although it may not always be palpable. The urine contains albumen and bile-pigment. I have already mentioned the terminal hyperpyrexia, but I would also point out that in cases of several weeks' duration there is often irregular hectic fever with night sweats. The blood usually shows a secondary anæmia and a leucopenia, even in those cases with high fever (see chart).

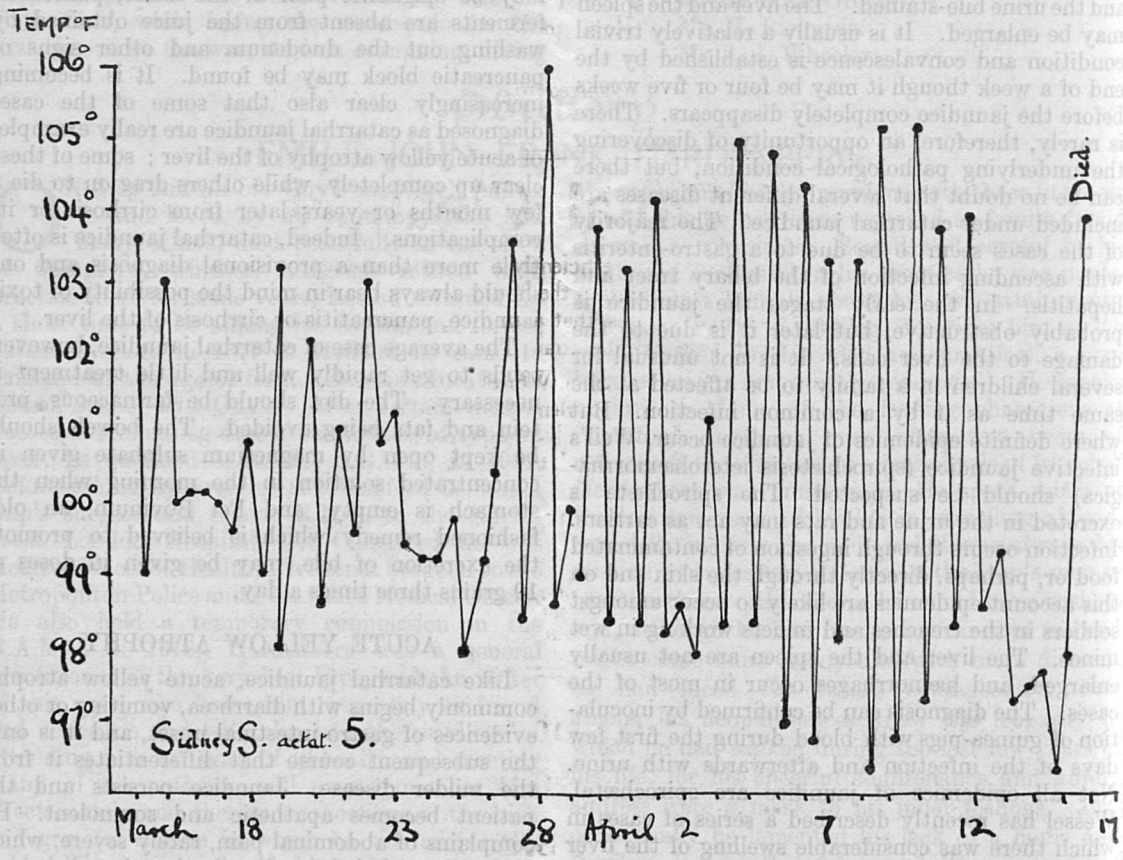

FIG. 1

Temperature Chart of Sidney S. (Acute Yellow Atrophy). A fortnight before admission he had complained of slight headache. A week later he was drowsy and thirsty. Blood count showed normal R.B.C. with leucopenia 3,280.

Poly.	38.5%	Lymph.	44.0%
Eos.	1.5%	L. Hyal.	16.0%

Bright was one of the first to recognise this type of jaundice, and the following account of the morbid anatomy is from a lecture by him in 1836.

"The condition of the liver after death differs according to the period at which the disease has proved fatal; but, in general, the size of the organ is not materially increased; though, on the contrary, it is not infrequently perceptibly diminished. There is no accumulation of bile in the minute ducts; and the yellow tinge which pervades certain portions of the structure is scarcely more than other structures of the body have obtained from the bilious impregnations with which the blood is loaded, and bears no analogy to the dark green of the liver, loaded with bile from obstruction in the large ducts. On examining the gall-bladder, it is found to contain little bile; and sometimes scarcely a trace of that fluid is to be discovered colouring the mucus accumulated by the secretion of its lining membrane.

When the disease has terminated early in its course, the whole liver feels rather soft and flaccid; the surface appears variegated, of a light yellow, and dark red or purple in patches; and certain portions project above the rest, which, when cut through, sometimes prove of a softer texture, and even to be undergoing a process of change or disorganisation; and portions of the same kind are intermixed throughout the whole substance of the liver; while at other times the yellow portions are harder than the surrounding substance."

In the fulminant cases the liver is small, shrunken and yellow or yellowish-brown in colour. There is practically universal destruction of the parenchyma, the liver cells are granular and disintegrated, and on this account acute necrosis of the liver is a better name than acute yellow atrophy. More commonly, as in the cases described by Bright, the liver is still small and shrivelled, but it has a parti-coloured appearance, there being a mixture of red and yellow areas. In the red areas the necrotic liver cells have undergone autolysis and absorption and only the vascular framework is left. When the red colour predominates the term acute red atrophy is sometimes applied. Usually the destruction is widespread and diffused throughout the liver, but occasionally it is confined to the centre of each lobule (central necrosis), and in eclampsia the peripheral zone of the lobules may be attacked. The spleen is softened and enlarged, the cells of the kidney are degenerated and there may be slight ascites.

The only possible explanation of these morbid changes is that the liver has been exposed to a poison so overwhelming as to kill all or nearly all of the hepatic cells. In many cases, indeed, this sequence of events is quite clear for those agencies which have been already mentioned as producing toxic jaundice, may sometimes produce acute yellow atrophy. It is known to result from poisoning by chloroform, salvarsan, atophan, phosphorus, tetrachlorethane, a substance used in the war for waterproofing the wings of aeroplanes, and the explosive trinitrotoluene. It may occur in cases of secondary syphilis which have had no treatment as a result of the intensity of the syphilitic infection and more rarely it follows other infectious diseases. In the accompanying diagram I have

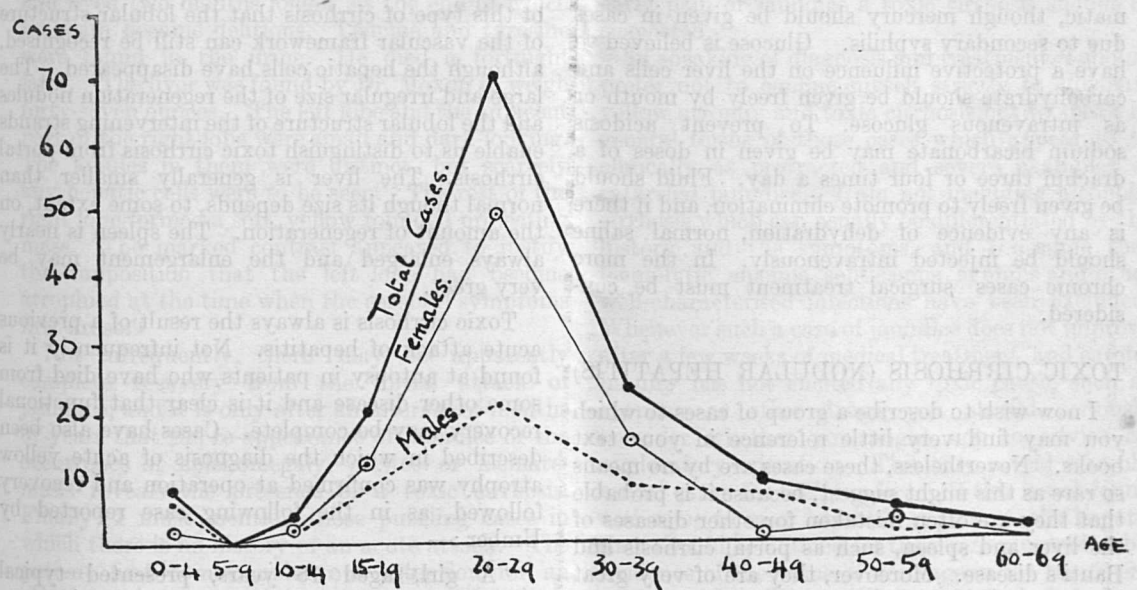

FIG. 2
Age and Sex incidence of Acute Yellow Atrophy.

charted the age incidence of 143 cases collected by Thierfelder in 1880, and you will see that the disease occurs most frequently in the third and fourth decades and that it is twice as common in women as in men. This unenviable preponderance in the female sex is due to the association of acute yellow atrophy with pregnancy; such cases usually occur during the second half of gestation or soon after labour and must be supposed to be due to the toxæmia of pregnancy. It is not uncommon also for a patient with cirrhosis of the liver to die as a result of a terminal acute necrosis of the remaining liver cells. In other cases the ætiology is quite obscure and though we may be sceptical of the causes suggested by Bright—irregularities of diet, atmospheric exposure and the effects of external violence and injuries—we have nothing more satisfactory to substitute. Indeed, the increased frequency of catarrhal jaundice and acute yellow atrophy, which has been noted in Central European countries of recent years, has similarly been ascribed to food privations and bad housing conditions resulting from the Great War. Finally, I would remind you that acute yellow atrophy is rare. Amongst the 12,000 post-mortem examinations carried out at the London Hospital between 1907 and 1920 there were only 18 examples of this disease. At the same hospital 131 cases of eclampsia were treated in the ten years 1918–1927, with 25 deaths. During these ten years there were only five cases of jaundice complicating pregnancy; three of these women died and the post-mortem examination showed acute yellow atrophy of the liver.

Treatment for the most part must be symptomatic, though mercury should be given in cases due to secondary syphilis. Glucose is believed to have a protective influence on the liver cells and carbohydrate should be given freely by mouth or as intravenous glucose. To prevent acidosis sodium bicarbonate may be given in doses of a drachm three or four times a day. Fluid should be given freely to promote elimination, and if there is any evidence of dehydration, normal saline should be injected intravenously. In the more chronic cases surgical treatment must be considered.

TOXIC CIRRHOSIS (NODULAR HEPATITIS)

I now wish to describe a group of cases to which you may find very little reference in your text books. Nevertheless, these cases are by no means so rare as this might suggest, because it is probable that they are often mistaken for other diseases of the liver and spleen, such as portal cirrhosis and Banti's disease. Moreover, they are of very great importance for the understanding of the diseases of the liver and spleen.

We left the study of acute necrosis of the liver at the stage of red atrophy where many of the necrotic cells had been removed by autolysis and phagocytosis. Even at this stage there is always evidence of repair. The bile ducts are much more resistant than the liver cells, and they not only remain well-preserved in the vascular framework, but also proliferate to re-establish connection with the lobules. The surviving liver cells divide, and if the lobules are not completely destroyed, as in the central necrosis produced by chloroform, each lobule is regenerated from the remaining cells and the normal structure of the liver is restored. More commonly in acute atrophy wide tracts of liver tissue are entirely destroyed, and if life is maintained long enough for regeneration to occur, there may be the most extraordinary distortion of the architecture of the liver. When islands of cells have survived throughout the liver, regeneration results in the production of nodules which may attain the size of a pigeon's egg, separated by vascular fibrous tissue, a coarse cirrhosis of the liver. In other cases, one lobe of the liver is entirely destroyed and the remnant of hepatic tissue in the other lobe hypertrophies to a tumour-like mass. The nodules of new-formed tissue are often bile-stained, but later the staining may disappear as connection with the biliary system is re-established. The resemblance to tumour formation may be very striking, and hence such names as multiple nodular hyperplasia or multiple adenomas of the liver. Very little new fibrous tissue is formed and the separating tissue is merely the compressed framework of the areas of the liver which have been destroyed. It is characteristic of this type of cirrhosis that the lobular structure of the vascular framework can still be recognised, although the hepatic cells have disappeared. The large and irregular size of the regeneration nodules and the lobular structure of the intervening strands enable us to distinguish toxic cirrhosis from portal cirrhosis. The liver is generally smaller than normal though its size depends, to some extent, on the amount of regeneration. The spleen is nearly always enlarged and the enlargement may be very great.

Toxic cirrhosis is always the result of a previous acute attack of hepatitis. Not infrequently it is found at autopsy in patients who have died from some other disease and it is clear that functional recovery may be complete. Cases have also been described in which the diagnosis of acute yellow atrophy was confirmed at operation and recovery followed, as in the following case reported by Umber:—

"A girl, aged 18 years, presented typical symptoms of acute yellow atrophy. During convalescence, on the 41st day after the onset, she was

seized with severe colicky pains with vomiting and increase of icterus. A diagnosis of cholecystitis was made. Two weeks later an operation was performed. The liver was small, fairly smooth and of a bright red colour. The border, especially of the right lobe, and a portion of the liver near the falciform ligament were shrunken. A large nodule was visible on the convexity of the liver and there were several nodules of the size of a hazel nut in the left lobe. A bit of tissue was excised and showed on microscopical examination healing acute atrophy. The girl was well three years later."

In other cases, the onset is like catarrhal jaundice, but the jaundice persists. The liver, which may have been palpable in the early stages, afterwards shrinks and the spleen enlarges. Ascites developes and after an illness of a few months the patient succumbs to some secondary infection, or, less frequently, to a terminal hæmatemesis or hepatic insufficiency. The jaundice, though persistent, is of variable intensity, and often it appears that there are repeated attacks of acute necrosis, as in a case reported by Hilton Fagge :—

"The patient had become delirious and had had such severe hæmatemesis that it was thought he would die in a few hours. However, he rallied and lived two months longer, at the end of which he again became delirious. Leucine and tyrosine were found in the urine. He died a fortnight later. The liver was found by Dr. Moxon to weigh forty-seven ounces. The left lobe and the adjacent part of the right lobe were small and dark-looking. The lobules in them were distinct, but scarcely any hepatic cells were to be seen. The rest of the right lobe formed a soft, yellow rounded projecting mass. The marked contrast appeared to justify the supposition that the left lobe had become atrophied at the time when the cerebral symptoms first arose."

Not infrequently, there may be apparently complete recovery from the initial attack of jaundice, and it is only after an interval of months or years that the re-appearance of jaundice or the occurrence of splenomegaly, ascites or hæmatemesis reveals the presence of a toxic cirrhosis. Finally, I must mention those puzzling cases in which there is no history of an acute attack. The patient first comes under our attention for an attack of hæmatemesis or as a case of splenic anæmia, but at operation or post-mortem toxic cirrhosis is found. There can be little doubt that there has been a previous attack of acute yellow atrophy, but that the symptoms were so mild as to pass unnoticed. On going through some of the other case histories, I have noticed that the first symptom is sometimes an attack of pain in the epigastrium or right scapular area. This pain is often severe enough to be mistaken for biliary colic, a mistake which is more likely to be made when it is accompanied by jaundice. It may, however, be little more than a sense of discomfort and jaundice may be absent, so that it is easy to understand how the initial symptoms may be overlooked.

I have collected 42 cases of toxic cirrhosis from the literature, and you will see from the table that the incidence is greatest in childhood and adolescence. The disease is twice as common in females as males, but only one of the cases appeared to be related to pregnancy. Rake has described a case due to atophan poisoning, a possibility also discussed by Willcox, and in other cases the condition has followed some relatively trivial infection. In the majority, however, the ætiology is quite obscure. It is only recently that toxic cirrhosis has been differentiated from alcoholic cirrhosis, and whenever cirrhosis developes rapidly or with early pain or jaundice a toxic cirrhosis should be suspected.

INCIDENCE OF TOXIC CIRRHOSIS

Male	3	4	1	1	2	1	1
Female	2	14	6	1	5	1	—
Total	5	18	7	2	7	2	1
Age	0–9	10–19	20–29	30–39	40–49	50–59	60–69

In speaking of diagnosis and treatment, I should prefer not to confine myself strictly to subacute yellow atrophy and toxic cirrhosis,but to speak in general terms of those cases which appear to us clinically as protracted and severe examples of catarrhal jaundice. I am not including alcoholic cirrhosis which can usually be differentiated by the history and the symptoms, and I assume that hæmolytic anæmia, septicæmia, syphilis and other well-characterised infections have been excluded. Whenever such a case of jaundice does not improve after a few weeks of medical treatment, and careful inquiry has not elicited any toxic cause, such as atophan or other drugs, you should seriously consider whether you ought not to advise an exploratory operation. This may reveal a mechanical cause for the jaundice. If this is not found and some form of hepatitis is present, the hepatic duct should be drained for there is now considerable evidence of the value of drainage in the treatment of hepatitis. The varying pathological findings

and the value of drainage are illustrated by Frangenheim's experience. Ten cases of severe jaundice with intact peripheral bile ducts on which he operated presented the following different histological appearances. There was central necrosis of the hepatic cells or subacute atrophy of the liver in six, intrahepatic cholangitis in two, and in two cases intrahepatic peripheral infiltration was present, without changes in the liver cells or bile ducts. All these patients recovered after biliary drainage. In the later stages of toxic cirrhosis, when the spleen is greatly enlarged, splenectomy may relieve the portal circulation, and if ascites is present, the Talma-Morrison operation may be performed. In all cases the removal of septic foci is of the utmost importance, as so many of these patients die of intercurrent infection.

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Current Cases

VI.—A Case of Œsophageal and Pyloric Strictures due to swallowing Carbolic Acid

WILLIAM P., aged 31 years. A school cleaner. Admitted into Naaman Ward under the care of Mr. Rowlands on March 2nd, 1929. Family history, good. Previous illnesses, none of note.

The patient stated that as his work was in dusty rooms he used to gargle every morning with carbolic acid which he diluted with water for himself. One morning, seven weeks prior to admission, the patient, being in a hurry, forgot to dilute the acid before gargling. He remembered nothing until he awoke to find himself in the surgery of his panel doctor with an intense pain in his mouth and gullet. He was treated with mouth washes and improved. For the last two weeks, however, there has been increasing difficulty in swallowing food, which has seemed to stick behind the lower part of the sternum causing a severe burning pain in that region. For the last week he has taken fluids only, and has frequently vomited small quantities of black fluid. He has never vomited more than half a pint at a time. He has been growing very rapidly thinner.

On admission the patient was seen to be greatly emaciated. He was cold with a subnormal temperature and a rapid pulse. On examination of his abdomen the outline of a greatly distended stomach was clearly visible. There was no visible peristalsis. On palpation the stomach was absolutely tense, and a thrill was readily transmitted across it. To percussion it was completely dull all over, the rest of the abdomen being resonant. The other systems were normal.

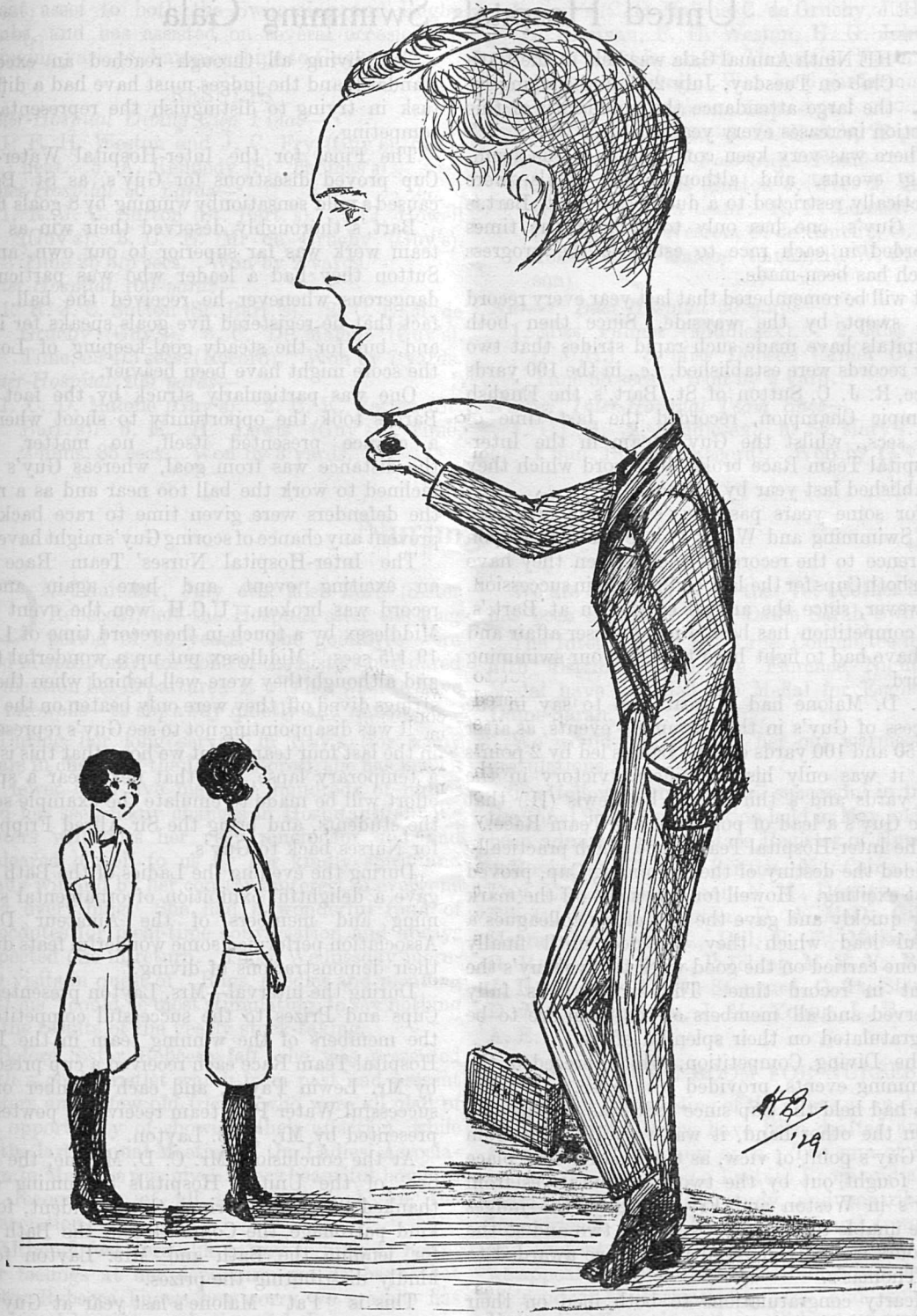
The patient was put to bed with warm blankets and hot bottles. He was given repeated injections of morphia gr. $\frac{1}{4}$ and atropine gr. 1/100, and was given four-hourly rectal salines which he absorbed well. The following day he swallowed a Ryle's tube which passed fairly readily down the cardia, but which would not pass further although left in for an hour.

The following day, March 4th, Mr. Parsons operated. He made a right para-median incision into the abdomen, and found an enormously dilated and tense stomach. He pierced the stomach with a trochar and canula and drained off 8 pints of dark fluid, which, however, was not foul. The stomach was then washed out until the washings were nearly clear. The stomach wall was found to be thick and in remarkably good condition considering the degree of distension. There was a tight stricture at the pylorus extending for about 1 inch. The cardia was searched for but not found. A posterior gastro-jejunostomy was made and a gastrostomy tube was sewn in through the hole of the trochar and canula and brought out through a separate skin incision.

The patient stood the operation very well and started immediately to improve in health. He drank a fair amount of fluid by mouth and was fed through the gastrostomy. He did well for a fortnight and at the end of this time was swallowing a little fish and potato without difficulty. His wound had healed well. Unhappily, he now developed bronchitis against which he put up no resistance. His temperature and pulse steadily rose, he became weaker and eventually died on March 28th.

At autopsy the lungs showed a condition of septic pneumonia with an early empyema at the right base. There was a tight stricture which just admitted a probe over the lower 3 inches of the œsophagus, being most marked at the cardiac orifice. The mucous membrane was comparatively healthy. The stomach was healthy and the gastro-jejunostomy had healed well. There was a tight fibrous stricture at the pylorus causing a complete obstruction. The other organs were healthy.

T. G. S.



"HERO WORSHIP"

United Hospitals Swimming Gala

THE Ninth Annual Gala was held at the Bath Club on Tuesday, July 2nd, and judging by the large attendance the popularity of this function increases every year.

There was very keen competition in the swimming events, and although the finals were practically restricted to a duel between St. Bart.'s and Guy's, one has only to look at the times recorded in each race to estimate the progress which has been made.

It will be remembered that last year every record was swept by the wayside. Since then both Hospitals have made such rapid strides that two new records were established, *i.e.*, in the 100 yards Race, R. J. C. Sutton of St. Bart.'s, the English Olympic Champion, recorded the fast time of 59$\frac{4}{5}$ secs., whilst the Guy's team in the Inter-Hospital Team Race broke the record which they established last year by 1$\frac{2}{5}$ secs.

For some years past Guy's have monopolised the Swimming and Water Polo events, and upon reference to the records it will be seen they have won both Cups for the last eight years in succession. However, since the arrival of Sutton at Bart.'s, the competition has been a much closer affair and we have had to fight hard to retain our swimming record.

C. D. Malone had a great deal to say in the success of Guy's in the swimming events, as after the 50 and 100 yards events, Bart.'s led by 2 points and it was only his magnificent victory in the 200 yards and a third place by Lewis (H.) that gave Guy's a lead of points for the Team Race.

The Inter-Hospital Team Race which practically decided the destiny of the Swimming Cup, proved most exciting. Howell for Guy's got off the mark very quickly and gave the rest of his colleagues a useful lead which they retained until finally Malone carried on the good work to give Guy's the event in record time. The success was fully deserved and all members of the team are to be congratulated on their splendid effort.

The Diving Competition, which preceded the swimming events, provided a surprise, as London who had held the Cup since 1923 was unplaced.

On the other hand, it was very pleasant from the Guy's point of view, as the duel for first place was fought out by the two representatives from Guy's in Weston and Fry. Finally, the judges were unable to decide between the two and so the honours were divided and third place awarded to St. Thomas's.

Hearty congratulations to both men on their achievement in bringing the Cup to Guy's—it was a praiseworthy effort.

The diving all through reached an excellent standard, and the judges must have had a difficult task in trying to distinguish the representatives competing.

The Final for the Inter-Hospital Water-Polo Cup proved disastrous for Guy's, as St. Bart.'s caused a mild sensation by winning by 8 goals to nil.

Bart.'s thoroughly deserved their win as their team work was far superior to our own, and in Sutton they had a leader who was particularly dangerous whenever he received the ball. The fact that he registered five goals speaks for itself, and, but for the steady goal-keeping of Lomax, the score might have been heavier.

One was particularly struck by the fact that Bart.'s took the opportunity to shoot whenever a chance presented itself, no matter what the distance was from goal, whereas Guy's were inclined to work the ball too near and as a result the defenders were given time to race back and prevent any chance of scoring Guy's might have had.

The Inter-Hospital Nurses' Team Race was an exciting event, and here again another record was broken. U.C.H. won the event from Middlesex by a touch in the record time of 1 min. 19 1/5 secs. Middlesex put up a wonderful fight, and although they were well behind when the last strings dived off, they were only beaten on the post.

It was disappointing not to see Guy's represented in the last four teams, but we hope that this is only a temporary lapse, and that next year a special effort will be made to emulate the example set by the students, and bring the Sir Alfred Fripp Cup for Nurses back to Guy's.

During the evening the Ladies of the Bath Club gave a delightful exhibition of ornamental swimming and members of the Amateur Diving Association performed some wonderful feats during their demonstrations of diving.

During the interval—Mrs. Layton presented the Cups and Prizes to the successful competitors—the members of the winning team in the Inter-Hospital Team Race each received a cup presented by Mr. Lewin Payne, and each member of the successful Water Polo team received a pewter cup presented by Mr. T. B. Layton.

At the conclusion, Mr. C. D. Malone, the Hon. Sec. of the United Hospitals Swimming Club, thanked Sir Alfred Fripp, the President, for his kind patronage, the Committee of the Bath Club for lending the Bath and Mrs. Layton for so kindly distributing the prizes.

This is "Pat" Malone's last year at Guy's, as he will be leaving immediately after completing his present appointment of Dental House Surgeon.

We shall be very sorry to lose him as he has been a great asset to both the Swimming and Rugby Clubs, and has assisted on several occasions in bringing various championships to Guy's.

RESULTS

Inter-Hospital Diving Cup Final—

1. F. H. Weston and J. C. Fry (Guy's), dead-heat. 3. A. Kennedy (St. Thomas's).

Inter-Hospital 50 Yards—

1. R. J. C. Sutton (St. Bart.'s). 2. J. Howell (Guy's). 3. C. E. M. de Gruchy (Guy's). Time 25 3/5 secs. Won by 2 yards.

Inter-Hospital 100 yards—

1. R. J. C. Sutton (St. Bart.'s). 2. C. E. M. de Gruchy (Guy's). 3. C. D. Malone (Guy's). Time, 59 4/5 secs. (Record), Won by 7 yards.

Inter-Hospital 200 yards—

1. C. D. Malone (Guy's). 2. C. K. Varten (St. Bart.'s). 3. E. H. Lewis (Guy's). Time, 2 mins. 33 secs. Won by 3 yards.

Inter-Hospital Team Race—

1. Guy's (C. D. Malone, C. de Gruchy, J. Howell, J. Bunyan, F. H. Weston, H. G. Jokelson.) 2. St. Bart.'s. 3. St. Thomas's. Time, 1 min. 18 secs. (Record). Won by 6 yards.

Inter-Hospital Swimming Cup—

1. Guy's, 27 points. 2. St. Bart.'s, 22 points.

Inter-Hospital Water-Polo Cup—Final—

St. Bart.'s 8 goals (Sutton 5, West 2, Varten). Guy's 0 (Guy's team: R. F. Lomax, E. H. Lewis, F. H. Weston, C. de Gruchy, O. M. H. Jones, C. D. Malone (Capt.), R. W. Stephenson).

Nurses' Inter-Hospital 50 yards—

1. Miss Palmer (Middlesex). 2. Miss Bates (U.C.H.). 3. Miss Dobson (Miller General). Time 38 secs. Won by ½ yard.

Nurses' Inter-Hospital Team Race—

1. U.C.H. 2. Middlesex. 3. St. Mary's. Time 1 min. 19 secs. (Record). Won by 1½ yards.

Nursing News

ON Thursday, July 4th, Miss Ford (Sister Rebecca), left the Hospital after the long period of 36 years. The goodbyes were said in spirit only, for none of the Sisters had dared to mention her departure; it was her wish to have no farewells—to slip away quietly and unnoticed.

During her long service in Guy's (for many years in charge of the Linen Stores), she has known no fewer than five matrons, hundreds of nurses and has seen many changes in Hospital life. We Sisters will miss her very much, for she had endeared herself to us by her kindly spirit and ready wit and by her constant interest in everyone and everything. She had a wonderful fund of anecdotes for meal-time conversation and always expected one in return. Those Wednesday morning visits in quest of "Rags, needles and mending cottons" could be most stimulating, to say nothing of the results of the yearly stock-taking.

Before Sister Rebecca left she was presented with a gold wristlet watch from past and present Sisters and a few old friends who were all glad of an opportunity of showing their affection, while at the last Annual Meeting of the Ladies' Association in May she was given a very beautiful bouquet in recognition of all she had done for the Association.

Although we were able to say so little to her of our feelings at her departure, we do hope that Sister Rebecca knows how sorry we are she has gone and how sincerely we wish her many more years of happiness and better health.

We are delighted to see that yet another honour has been conferred upon Dame Sarah Swift.

The International Red Cross Committee in their fifth distribution of the Florence Nightingale Medal have awarded the Medal for England to Dame Sarah.

We would like to offer her our warmest congratulations.

The following nurses were successful in passing the Final State Examination held in May and have been admitted to the State Register of Nurses:—

Bovington, C. M., Britton, N., Caine, F. I., Day, E. E. E., Dickinson, N. M., Donaghy, E. A., Elliott, K., Etherington, D. J. McD., Gill, E., Harries-Jones, F. M., Hill, V. F., Major-Lucas, G. B., Mather, P. M., Patching, M. E. V., Rassell, J. E., Sanday, M. G., Stannard, O. P., Stephens, D. M., Waddington, J. M., Young, L. B., Zugg, A. E.

A LECTURE ROOM FOR NURSES

Plans for the building of the above as an Annexe to the Nurses' Home have been drafted and the subscription list is now open. The sum of £3,500 is needed for building a Lecture Room and a quiet room and Library for study, and contributions from friends of the Nursing Staff and from Past and Present Nurses are already coming in. May we appeal to Past Nurses and all those in sympathy to send in Subscriptions, large and small, to Matron's Office, where they will be most gratefully received?

LAWN TENNIS

The Fourth Round for the "Nursing Times" Inter-Hospital Tennis Cup was played off on Wednesday, July 3rd, at The Cottage, Honor Oak Park. Great excitement was felt about this match as we were drawn to play St. Thomas's Hospital—the holders. The day was perfect, not too hot and no rain.

The match started with the first couples—Nurses V. Johnson and Major-Lucas playing for Guy's. The tennis was excellent, both couples playing at the top of their form.

The first set was a close fight, ending in 7–5 for the home couple.

The second set resulted in 6–3 for Guy's, and then the spectators began to have visions of the much coveted Cup back in the case in the Nurses' Home ! The third set was another fight, resulting in 7–5 for Guy's.

After tea, the second couples played—for Guy's Sister Johnson and Nurse Payne.

Tennis was on a very high level all the afternoon, and in the second match, although St. Thomas's went in on a losing game, they played as if they meant to win all through.

The sets were 6–3, 6–4, 2–6, to Guy's.

Nurses Johnson and Major-Lucas make a very happy combination and will be hard to beat. We were delighted to see Sister Johnson playing this year, as last year she did not play in matches at all and was badly missed. Her steadiness gives confidence to the team, and with Nurse Payne's strong, untiring strokes to back her up, we feel we need have no fear for the Semi-finals against Marylebone. In fact, we hope for great things from one of the best teams Guy's has ever turned out.

The tea provided by Home Sister at The Cottage was excellent. Home-made cakes, fresh sandwiches and thin bread and butter were thoroughly appreciated by the enthusiastic spectators and by the players.

St. Thomas's brought several supporters, including the Home Sister. Guy's Sisters and Nurses rose to the occasion and made a goodly show. Miss West, Assistant Matron, represented Matron who is in America. A cablegram was sent to the latter to inform her of the good news. We heard that one was also being sent to Miss Lloyd-Still, who is also in America.

There was a very friendly spirit throughout the afternoon, and the St. Thomas's players remarked that they would rather lose to Guy's than to anyone as they so thoroughly enjoyed matches against us.

SWIMMING.

Guy's Hospital Physio-Therapeutic Swimming Club v. Croham Hurst School.

ON Wednesday, June 26th, a swimming match took place in the Guy's Baths between Croham Hurst School and the above club which resulted in a win for the visitors.

Referee—Mr. Malone.

Guy's team—Misses Barton, Hilton, Kidd, Morris, Murrell, Osler and J. Singleton.

v. Dartford Physical Training College.

THE second match of the season was held in the Guy's Baths on Monday, July 1st *v.* Dartford Physical Training College, the home team winning the match on the last race.

Referee—Mr. Jarman.

Guy's team—Misses Barton, Hilton, Kidd, Osler, J. Singleton, Usher and Wilkinson.

v. Sutton High School.

A VERY close match which resulted in a draw was held in the Guy's baths on Wednesday, July 3rd.

Guy's team—Misses Barton, Hilton, Kidd, Morris, Nuding, Osler, Usher, Wilkinson.

Referee—Mr. Jarman.

The events for these three matches included :—

1. Two Lengths Sprint.
2. Back Stroke, A.S.A. Style.
3. Breast Stroke.
4. Crawl.
5. Dive.
6. Duck Dive.
7. Plunge.
8. Team Race.

Correspondence

The late Major-General Pollock

To the Editor of the GAZETTE

SIR,—The obituary of Major-General Pollock in your issue of the 15th of June, written by C. B. B. P., contains such glaring errors that I beg space to correct them. In the first place, the names of both members of the Staff are incorrectly spelled and should be Pavy and Howse respectively.

Nor did Pavy wear a skull cap of velvet or any other sort, for he had a good head of hair. The remark about Mr. Howse and his operating coat is only pardonable from the ignorance of the writer who could never surely have followed the methods of one who introduced and practised strict Listerian methods at Guy's in 1870. It is true that Howse, like all other surgeons, used a black frock coat, but never for any other purpose. As

the spray was in full use in 1886, the cuffs were well impregnated with carbolic acid. In this same year, of the eight surgeons (the writer being of the number) one only refused to use Listerian methods, and the seventh, who was the second senior, employed the method partially. To imagine such a man as Howse operating in a coat in which he attended post-mortems, is the grossest of libels, not only on the individual, but upon the surgical methods generally. One is always proud of the fact that Listerian methods were introduced into London by Howse at Guy's in 1870 and Marcus Beck at University College inaugurated the methods at the same time. Both these young surgeons had visited Lister's wards in 1868. Of the part of the notice referring to Pollock, one would like to add a word as to the charm of his personality, his high sense of duty, and his administrative abilities. To meet Pollock after a long interval was to find the old genial friendship and to renew associations as if they had never been interrupted. Yours, etc., C. J. S.

To the Editor of the GAZETTE

SIR,—In your last issue in the Obituary Notice of the late Major-Gen. Pollock, the writer of the notice says "Mr. Jacobson and Mr. Howes ! ! who used to operate in a frock coat soaked in blood in which he had done post-mortems." I was dresser to Mr. Howse when he was Asst. Surgeon in 1873, when we worked labouriously at the hand-pumped sprays, but I never remember him operating in such a coat, for in those days he was trying to inculcate surgical cleanliness. Now Mr. Bryant's coat was something to remember in that respect. I suppose when Dr. Pavy donned a skull cap was long after my time. Another point, did Mr. Howse do P.-M.'s ? Dr. Goodhart, who succeeded Dr. Moxon, was doing great and good work in that line then.

Yours, etc., WM. E. DRING.
"Elmstead," Tenterden, Kent.

Mr. Beckwith's Presentation

To the Editor of the GAZETTE

SIR,—May I be allowed a space in which to thank all those kind friends at Guy's who gave me such a magnificent present on my retirement. Apart from the value of the cheque, the beautiful album accompanying it, containing the names, not only of all my colleagues among the Administrative Staff, but also the names of nearly all the past and present members of the Medical Staff was a revelation to me of the number who took an interest in me and on whose friendship I could rely. It will always remain among my most cherished possessions. Once more thanking everyone most deeply.

Yours, etc., F. B. BECKWITH.

Sport

2nd Round Junior Hospital Cup
Guy's v. Bart's

THIS game ended in a win for us by 48 runs. Guy's won the toss and elected to bat. H. Cameron and T. D. Ridsdale again gave us a good start, scoring 56 for the first wicket, Ridsdale eventually being bowled for 18. There was a useful stand for the 4th wicket before G. Barwell was caught for 24, H. Cameron having previously contributed a useful 43. L. E. Marshall who showed very good form, scored 53 not out, a very valuable knock, and the side was eventually dismissed for 168.

Bart's then went in and lost 9 wickets for 80 runs. Their last wicket then made a stand and added 40 runs when J. C. Knox was run out.

Guy's work in the field was very good, the fielding being keen and the bowling steady, and a maintenance of this form should ensure the return of the Junior Hospital Cup to Guy's.

Guy's

H. Cameron, b. O'Connell	43
T. D. Ridsdale, b. Jenkins	18
G. Barwell, c. Jenkins, b. Stanton	24
J. R. F. Popplewell, b. Jenkins	1
L. E. Marshall, not out	53
A. R. Clarke, b. Stanton	0
R. A. P. Hogbin, st. Knox, b. Stanton	8
A. E. Williamson, b. O'Connell	5
R. N. Hines, l.b.w. b. O'Connell	0
J. B. Scholfield, b. Jenkins	9
L. S. Woodivis, b. O'Connell	1
Extras	1
Total	168

Bart's

R. H. Carpenter, b. Woodivis	0
J. V. Hopkins, c. Hogbin, b. Marshall	11
R. N. Williams, c. Cameron, b. Hogbin	6
A. H. Brace, run out	22
J. O'Connell, c. Hines, b. Barwell	2
D. H. Dean, c. Williamson, b. Hogbin	14
J. R. Jenkins, b. Hogbin	8
H. G. Stanton, c. Cameron, b. Woodivis	12
C. V. Thompson, b. Woodivis	5
J. S. Knox, run out	24
H. C. Edwards, not out	11
Extras	5
Total	120

Bowling—L. S. Woodivis 3 for 31, R. A. P. Hogbin 3 for 24, G. Barwell 1 for 46, L. E Marshall 1 for 12.

Lawn Tennis.

Inter-Hospital Cup—Semi-Final
Guy's v. St. Thomas's

THIS match was played at Honor Oak Park, on June 21st, and resulted in a win for Guy's by 9 matches to 6. This was all the more satisfactory after a bad start made in the singles, which gave the holders of the Cup a lead of 4 matches to 2.

Spence and Gaitskell were responsible for these two successes. Spence found in Williams an old opponent whom he had defeated two years previously in the final. He repeated his victory in two sets without being seriously extended.

Gaitskell played a very sound game at No. 4 and won his match at an opportune moment. His steady fore hand drive seemed to worry his opponent, who was frequently in the position of seeing what he had regarded as a winning shot come back again in remorseless fashion. Speed of foot is Gaitskell's main asset and enables him to get up to a short ball and be back again on the back line ready for the next return. It also allows him to run round most of his back hand shots, a constant source of discouragement to his opponents.

The first doubles match to be finished, ended in a win for St. Thomas's 2nd pair over Bruce Pearson and Gaitskell, who played uncertainly and without confidence. St. Thomas's thus led by 5 matches to 2 and were obviously "feeling good." At this point, however, the tide turned, and of the remaining 8 matches, Guy's won 7.

Spence and Day beat the opposing first pair, who concentrated on Day and peppered him from all corners of the court. They varied their tactics by occasional passing shots down Spence's side line. In this way they won the first set. After this, however, Spence did noble work, and with the aid of some good services by Day, won the next two sets.

Bruce Pearson and Gaitskell then beat Williams and Conyers. After Guy's had won the first set, a curious lapse occurred which allowed St. Thomas's to win the second set to love, and lulled them into a sense of false security, with the result that the third set was won fairly easily by the Guy's pair. Mailer and Sharpe had meanwhile beaten the third pair after a long struggle in the third set. This was the most exciting match of the day, and very important from the point of view of the result. Both Mailer and Sharpe volley extraordinarily well and Mailer's overhead work is especially awe inspiring. When they had won this match they went on to beat the second pair after another close struggle, and after tea finished the good work by beating the first pair as well.

The full results were as follows:—

P. D. B. Spence beat Williams 6–4, 6–2.
R. S. Bruce Pearson lost to Pringle 4–6, 0–6.
G. C. Mailer lost to Conyers 3–6, 5–7.
D. K. Gaitskell beat Taylor Young 8–6, 6–4.
H. G. Sharpe lost to Goldsmith 5–7, 7–9.
G. Hollis lost to Sowerbutts 2–6, 8–10.

Spence and Day—
Beat Williams and Conyers 3–6, 6–2, 6–3.
Lost to Pringle and Goldsmith 6–4, 3–6, 4–6.
Beat Taylor Young and Brown, 7–5, 6–2.

Bruce Pearson and Gaitskell—
Beat Williams and Conyers, 8–6, 0–6, 6–2.
Lost to Pringle and Goldsmith 6–3, 6–2.
Beat Taylor Young and Brown 1–6, 6–4, 6–4.

Mailer and Sharpe—
Beat Williams and Conyers 6–2, 9–7.
Beat Pringle and Goldsmith 7–5, 6–4.
Beat Taylor Young and Brown 4–6, 6–4, 9–7.

Appointments

APPOINTMENTS

THE Court of Committees has approved the following recommendations of the School Council:—

Dental Officer to the Salomons Centre—
Mr. E. R. Bailey, L.R.C.P., M.R.C.S., L.D.S., reappointment for one year.

Dental Anæsthetist to the Salomons Centre—
Mr. A. D. Marston, L.R.C.P., M.R.C.S., L.D.S., reappointment for one year.

Medical Assistants—
Mr. A. A. Osman, L.R.C.P., M.R.C.S., reappointment for one year.
Mr. J. R. B. Hern, B.M., B.Ch., M.R.C.P., appointment for two years.

Tuberculosis Officer—
Dr. Geoffrey Marshall, M.D., F.R.C.P., reappointment for one year.

Instructor of Patients with Defective Speech—
Mr. H. St. John Rumsey, M.A., reappointment for one year.

Senior Assistant Bacteriologist—
Mr. L. W. Cann, M.B., B.S., reappointment for one year.

Assistant Anæsthetists to the Hospital—
Mr. E. R. Boland, M.R.C.P., reappointment for one year.
Mr. J. R. B. Hern, B.M., M.R.C.P., reappointment for one year.
Mr. C. R. E. Freezer, L.R.C.P., M.R.C.S., appointment for two years.

Mr. R. Jarman, L.R.C.P., M.R.C.S., appointment for two years.
Mr. R. E. Smith, M.B., B.Ch., M.R.C.P., appointment for two years.

Anæsthetist to Bright Ward—
Dr. E. A. Scott, L.R.C.P., M.R.C.S., reappointment for one year.

Resident Medical Officer, Bright Ward—
Mr. R. S. de Bruyn, L.R.C.P., M.R.C.S., reappointment for one year.

Clinical Assistants to Medical Out-Patients—
Mr. C. H. Atkinson, L.R.C.P., M.R.C.S., reappointment for one year.
Mr. J. R. B. Hern, B.M., M.R.C.P., appointment for two years.
Mr. J. W. Shackle, L.R.C.P., M.R.C.S., appointment for two years.

Chief Clinical Assistant and Registrar, Actinotherapeutic Dept.—
Mr. J. F. Carter-Braine, F.R.C.S., reappointment for one year.

Chief Clinical Assistants and Registrars, Ear, Nose and Throat Dept.—
Mr. W. A. Mill, F.R.C.S. (to Mr. Layton), reappointment for one year.
Mr. R. J. Cann, M.B., B.S. (to Mr. Mollison), reappointment for one year.
Mr. M. Sourasky, M.D., F.R.C.S. (to Mr. Mollison), appointment for two years.

Chief Clinical Assistant and Registrar, Neurological Dept.—
Mr. R. N. Ironside, M.B., Ch.B., M.R.C.P., reappointment for one year.

Chief Clinical Assistants and Registrars, Ophthalmological Dept.—
Mr. S. C. R. Flaxman, M.B., B.S. (to Mr. Eason), reappointment for one year.
Mr. D. F. Durward, L.R.C.P., M.R.C.S., reappointment for one year.
Mr. M. Shaw, L.R.C.P., M.R.C.S., appointment for two years.

Chief Clinical Assistant and Registrar, Orthopædic Dept.—
Mr. A. T. Fripp, F.R.C.S., appointment for two years.

Chief Clinical Assistant and Registrar, Dept. for Psychological Medicine—
Mr. C. P. Blacker, B.M., M.R.C.P., reappointment for one year.

Director of the Venereal Diseases Dept.—
Mr. V. E. Lloyd, M.B., B.S., reappointment for one year.

Assistant Director (Female) of the Venereal Diseases Dept.—
Miss M. Rawlins, M.B., B.S., reappointment for one year.

Medical Officers (Male) to the Venereal Diseases Dept.—
Mr. N. L. Lloyd, M.B., B.S., reappointment for one year.
Mr. P. M. Moffatt, M.B., B.S., reappointment for one year.

Hæmatologists to the Hospital (and Demonstrator of Pathology, Whole-time, with charge of Clinical Laboratory).
Mr. F. A. Knott, M.D., M.R.C.P., D.P.H., reappointment for one year.

Recommendation—
That Mr. F. A. Walker, L.D.S., should be appointed Director of the Dental Prosthetic Laboratory, as from September 1st, 1929, for a period of two years in the first instance.

MEDICAL SCHOOL

THE following appointments and reappointments have been made by the School Council. Duties to commence on October 1st, 1929 :—

Medical Registrar—
Mr. E. C. Warner.

Surgical Registrars—
Mr. W. D. Doherty.
Mr. N. L. Eckhoff.
Mr. B. G. Scholefield.

Obstetric and Gynæcological Registrar—
Mr. G. F. Gibbard.

Clinical Tutor in Charge of the Preliminary Clinical Period—
Mr. E. R. Boland.

Griffiths Demonstrator of Pathology—
Mr. H. G. Close.

Demonstrator of Pathology, Whole-time—
Mr. H. E. Harding.

Demonstrator of Pathology, Whole-time, with charge of Clinical Laboratory—
Mr. F. A. Knott.

Demonstrators of Anatomy, Whole-time—
Mr. Grant Massie.
Mr. R. C. Brock.

Demonstrator of Anatomy, Part-time—
Mr. C. R. E. Freezer.

Demonstrator of Physiology, Whole-time—
Mr. E. T. Conybeare.

Demonstrators of Physiology, Part-time—
Mr. C. R. E. Freezer.
Mr. R. E. Smith.

Demonstrator of Physics, Whole-time—
Mr. T. W. Adams.

Demonstrators of Chemistry, Whole-time—
Mr. W. M. Colles.
Mr. E. Matthews.

Demonstrators of Chemistry, Part-time.
Mr. L. A. Elson.
Mr. J. D. A. Johnson.

DENTAL SCHOOL

THE following appointments and reappointments have been made by the School Council for the year commencing October 1st, 1929 :—

Senior Dental Officer and Clinical Tutor—
Mr. H. H. Kenshole.

Assistant Dental Bacteriologist—
Mr. A. Bulleid.

Registrars in the Dental Department for Children—
Mr. R. Cutler.
Mr. R. E. Rix.

Anæsthetists to the Dental School—
Dr. E. A. Scott.
Mr. A. D. Marston.

Assistant Anæsthetists to the Dental School—
Mr. E. R. Bailey.
Mr. E. R. Boland.
Mr. R. Jarman.
Mr. R. R. Macintosh.

Demonstrators of Dental Prosthetics—
Mr. H. A. Rushton.
Mr. L. P. Tupling.

Demonstrators of Operative Dentistry—
Morning Attendance—
Mr. W. E. Herbert.
Mr. K. S. Keele.
Mr. E. H. Screech.
Mr. F. S. Warner.
Afternoon Attendance—
Mr. H. P. Baylis.
Mr. K. Hooper.
Mr. E. A. Lloyd.

Hospital Information, etc.

Pass List.

UNIVERSITY OF LONDON
3RD EXAMINATION IN DENTAL SURGERY
PART II—June, 1929
A. R. F. Thompson.
UNIVERSITY OF CAMBRIDGE
2ND EXAMINATION FOR MEDICAL AND SURGICAL DEGREES
PART II—Easter Term, 1929
W. Lewis.
3RD EXAMINATION—*PART I*
I. B. Morris.
PART II
C. G. Townsend
M.Chir.
J. Gray.

Notices

MEDICAL SCHOOL
SCHOLARSHIPS IN ARTS AND SCIENCE

The following awards have been made for 1929 :—

Entrance Scholarship in Arts of the value of £100.
Frank Taylor, Christ's Hospital, Horsham.

Entrance Scholarship in Science of the value of £100.
Donald John Clarke, Reigate Grammar School.

Confined Scholarship in Science of the value of £100.
Samuel Hall Wass, Preliminary Science Classes, Guy's Hospital Medical School.

FINAL FELLOWSHIP COURSE
September—November, 1929.

AS the list of entries for the Final Fellowship Course for the period September to November, 1929, is rapidly approaching completion, Guy's men who wish to take the Course are asked to send in their names to the Medical School Office as soon as possible. The Course will commence on September 4th.

T. B. JOHNSTON, Dean.

DENTAL SCHOOL
SCHOLARSHIPS IN ARTS AND SCIENCE

The following awards have been made for 1929 :—

War Memorial Scholarships in Arts (£40 *per annum for four years*). Divided between—
Douglas Hugh Thomas Mackirdy Robertson-Ritchie, Wyggeston Grammar School for Boys, Leicester.
Harry Colin Davies, Bishops Stortford College.

Entrance Scholarship in Science (£40 *per annum for not more than four years*). Divided between—
Edgar Sidney Venning, Wycliffe College, Stonehouse, Glos.
Cyril Ingram Hagger, Alleyn's School, Dulwich

Change of Address

H. W. Taylor, M.B., B.Ch., Malvern House, Bridgwater, Somerset.

D. M. Calder, Lambert's Chambers, Church Street, Pietermaritzburg, Natal, South Africa.

Births

OGILVIE—On June 15th, 1929, at 27, Hamilton Terrace, N.W.8, to the wife of W. H. Ogilvie, F.R.C.S., of twin daughters.

BALDING.—On July 1st, 1929, at 91, Church Road, Hove, to Ena, wife of Lionel E. Balding—a daughter.

BRADLEY.—On June 19th, 1929, at St. George's Nursing Home, Canterbury, to Dorothy, wife of Eric A. J. Bradley, L.D.S., R.C.S.Eng., Vale House, Canterbury—a son.

JARMAN.—On June 30th, 1929, at 105, Harley Street, W., to Mary, wife of Ronald Jarman. D.S.O., L.R.C.P. M.R.C.S.—a son.

Death

KIRKMAN—On June 30th, 1929, accidentally killed whilst Nature Studying on Seaton Cliffs, Devon, Barbara Mary, beloved daughter of Dr. and Mrs. A. H. B. Kirkman of Staplehurst, Kent, aged 19 years.

EDS. { O. P.
E. T. C.

GUY'S HOSPITAL GAZETTE

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PASSIM

HE is a rash man who will write of the weather, for, even as he writes of sunshine and clear blue sky, threatening clouds appear on the horizon, and by the time his words appear in print, sun has given way to snow and cloudless sky to lowering thunder clouds. But man is frail and continues to write of the weather, aware all the while that he walks on a treacherous quicksand which may let him down at any moment. As we write this we are buoyed up by unusual hope. The storm has come and gone and the glass seems set fair once more. The exceptional heat which we have endured and seem likely to endure this summer, lends strong support to the dress reform movement, though whether it took much place in the inception of the movement seems doubtful. It seems to us more probable that there has been a secret move in the direction of sartorial change for a long while, and that the organisers of the movement have seized upon the prolonged spell of hot weather as a propitious time at which to loose upon an unsuspecting world their revolutionary schemes. Always a conservative creature, man is particularly loth to make any drastic change in his clothes. His religious ideals and political opinions may go by the board in a day. He will even allow a certain elasticity to be introduced into his dietetic arrangements. But lay a hand upon his clothes and his whole manhood protests against the spirit of revolt. If it were not for a strong will to live inherent in the tailoring fraternity man's fashions in clothes would change even less than they do. At bottom this defence of conventional costume is probably based, not so much on satisfaction at the present state of affairs, as on sheer laziness. Man prefers discomfort and inconvenience—though he will deny them both—to the prospect of attracting attention and possibly derision by his novel appearance in a perfectly hygienic costume. While sharing with the rest of our sex this distrust of the reformers, we can foresee a certain brightening of our daily lives were the new suggestions to become accomplished facts. The front lodge might present a very gay spectacle at the hour when house-officers await the arrival of the staff. Gaily-coloured shorts supported by sandals and silken hose and topped by flowered tunics open widely at the neck would certainly add a touch of joyousness to a vigil which is at present merely rather tedious. Added to this, there would be the enchantment of observing the costumes of our elders and betters who should be allowed the additional dignity of silk hat and umbrella to set off the irresponsible appearance of sandals and knee breeches. For, admirably suited to operating as this costume would certainly be, it is difficult to achieve the dignity so necessary in the consultant while wearing short trousers; there is something about bare knees which precludes dignity, and the loss of the collar—that garment at which the main attack of the reformers is directed—removes some of the support which the great brain needs in its more serious deliberations. Many men have become famous on account of their collars, but few have gained anything more illustrious than the rope when the collar has been discarded.

A FEW months ago we appealed to Guy's men who were Fellows of the Royal College of Surgeons to rally round in support of Mr. C. H. Fagge's candidature for re-election to the Council of the College. We are now pleased to be able to record that Mr. Fagge obtained his re-election and further was elected one of the two Vice-Presidents of the Council for the ensuing year.

It must be a considerable time since Sir Arbuthnot Lane operated at Guy's. On the afternoon of Tuesday, July 23rd, he came down at the invitation of Mr. Slesinger to operate upon an awkward fracture of tibia and fibula just above the ankle-joint. Quite a large crowd assembled in Theatre IV to watch the operation, and, although disappointed at not seeing the bone plated, were impressed with the seeming ease with which the surgeon manipulated the fragments of the tibia into alignment, an operation which, in this case, could not have been as simple as it was made to appear.

Guy's is well represented this week at Manchester in the Annual Meeting of the British Medical Association. Dr. Hurst, who is one of the Vice-Presidents in the Section of Medicine, is opening a discussion on Asthma, in which Dr. Oriel will also take part, besides speaking on abdominal pain in a discussion of that subject to be held by the Section of Surgery. Dr. Poulton and Dr. Ryle are also taking part in the latter discussion. Mr. Mollison will read a paper on "*The Drug Treatment of Spasmodic Rhinorrhœa*" before the Section of Oto-Rhino-Laryngology, while at the meeting of the Section of Dermatology Dr. Dowling will read a paper on epidermal infections with yeast-like organisms.

Finally, Dr. V. E. Lloyd and Miss Rawlins will take part in a discussion of bismuth preparations in anti-syphilitic therapy to be held by the Section of Venereal Diseases.

The Nursing Staff once again contrive to excite our most genuine admiration. So great has been the excitement in the Home at the prospect of the new classroom made possible by the benefaction of the late Lord Revelstoke that the nurses themselves have undertaken to raise the considerable sum of money required to provide the necessary books and equipment.

The methods to be adopted seem curious and yet typical of the feminine resourcefulness that is the despair of the average male. With the aid of sugar and some ol. menth. pip. one nurse turns confectioner and manufactures, in immense quantities, peppermint creams that are eagerly purchased by certain Sisters to whom such fragrant camouflage is said to be the indispensable feature of an evening's gaiety. Others organise a dance at which for sixpence the humble junior pro may enjoy the inestimable privilege of waltzing with a staff nurse. That other refuge of charitable endeavour, the raffle, is also a feature in the programme with the first prize a gramophone. Having on one occasion spent a Sunday in College, we are entirely in favour of doing this with all gramophones. The new class-room is, we understand, to be situated above the swimming bath, almost the only space that now remains available adjacent to the Home.

Obituary

Dr. GEORGE PADDON

DR. GEORGE PADDON of Eastbourne, who died at Eastbourne in June after an accident, was one of the oldest surviving generation of Guy's men. He was in his ninetieth year when he died, and he entered Guy's in 1861.

He passed his Anatomical and Physiological Examinations of the Royal College of Surgeons in April, 1863. He was Medical Ward Clerk in 1862, and Dresser's Reporter in 1863, and the comments on his work in the Records of the Medical School are that he was "very good indeed."

He was Assistant Surgeon's Dresser to Mr. Arthur Durham in October and November, 1863, and was Clinical Clerk in November, 1863. In April, 1864, he was appointed Surgeon's Dresser to Mr. Edward Cock who made a note in his record "has well performed his duties."

He obtained his Membership of the Royal College of Surgeons in May, 1864, and his Licentiate of the College of Physicians in 1865.

Up to the time of his death Dr. Paddon retained all his faculties to a surprising degree, and for many years past he went to Mentone for the winter with the utmost regularity. He was well known to some of the younger generation of Guy's men who were always delighted to see him and to hear his recollections of Guy's and of his continued interest in his old school.

E.

Disease of the Aortic Valves

A Clinical Lecture delivered on July 5th, 1929, by Dr. J. M. H. Campbell

GENTLEMEN,—Some years ago, when I was looking after cases in the wards for the M.B. examiners, I was rather struck by a remark bearing on the subject of my lecture to-day. Those candidates, who were unfortunate enough to miss aortic diastolic murmurs or to make mistakes about them, seemed to be heavily penalised; and I asked the examiner afterwards if he did not think he was handicapping them rather too much. His reply was that there are so many things in medicine which no one can expect to know about by the time he is qualified—things that the average man is bound to acquire in practice; but he added. "If he leaves hospital without knowing an aortic murmur he will never know it all his life; he will miss it when he ought to diagnose it, and think it present when it is not."

Last year I saw a patient whose doctor was quite sure from the symptoms that he had heart disease, and actually sent him up with the comment that he thought he had aortic disease, but could not hear anything in his heart. Well, the patient had an extremely loud aortic diastolic murmur; so there one had an instance of a doctor who had not learned to recognise this when younger, and so was not familiar with it, in spite of his accurate knowledge of symptoms.

DIAGNOSIS OF AORTIC INCOMPETENCE

The aortic murmur is often more difficult than the mitral murmur. You quickly feel at home with pre-systolic murmurs, but most people, at first, find it more difficult to be certain about aortic diastolic murmurs. In a certain number of cases there is a loud obvious murmur, and no difficulty in timing it and deciding just what it is; but in others one is told that there is an aortic diastolic murmur, but finds it much more difficult to make out

This is extremely important, because an aortic diastolic murmur always means aortic incompetence. One hears a systolic murmur at the apex or base in many patients; but one does not know on that alone whether it means heart disease or not. A diastolic murmur means heart disease in every case.

The diagnosis of disease of the aortic valves practically means the diagnosis of incompetence. It is an old aphorism that only the expert should find aortic stenosis without incompetence; and I think you will see the truth of that from what I say later. It is not because aortic stenosis is rare, but it is rare to find it without incompetence, and it is very important that no mistake should be made.

A few months ago I saw a man who during his training in the army, had never shown any symptoms of heart disease, but the night before he was due to sail for France with his company, he was just turned down at the usual medical inspection and left behind. Ultimately, he was invalided out of the army as aortic stenosis. He has tried to work frequently since, but has never stuck to any job for long; he has drawn a disability pension for aortic stenosis, but has no heart disease of any sort. That mistake has cost hundreds of pounds and, what is more important, it has thoroughly upset the man, who has developed many symptoms of which he had no suspicion until he was turned down for having a systolic murmur. In a general way aortic stenosis should not be diagnosed unless there is incompetence. Later it will be seen what are the exceptions.

If there is difficulty in hearing an aortic murmur, the best method is to listen at the end of expiration with the patient standing up, just after exercise. The site of the diastolic murmur is also important. People are sometimes puzzled because they hear murmurs to the left of the sternum. They think the patient has aortic incompetence; but they do not hear anything or much in the aortic area. In a proportion of aortic cases one does hear murmurs more easily in the pulmonary area than on the other side. Pulmonary incompetence is rare enough not to need much attention, except in a patient who develops heart failure; as the failure clears up, the pulmonary incompetence may go. But if the murmur persists, nine times out of ten it will be an aortic murmur even if it is heard best in the pulmonary area; so do not fail to diagnose aortic incompetence simply because the murmur is in that field. What I have said about not diagnosing aortic stenosis alone will help you where there is a rough systolic murmur only, because pulmonary stenosis does, of course, occur without incompetence.

Really, the diagnosis of aortic incompetence depends on one sign only, the presence of a diastolic murmur. The things which are much talked about in this connection—the water-hammer pulse and capillary pulsation—are less important than the murmur. This is so for two reasons, partly because people who have not got aortic incompetence show these things, and partly because people who have got aortic incompetence do not show them. These, therefore, are put second to the presence of the diastolic murmur. When these signs are present it should make one look specially carefully whether the patient has got aortic incompetence.

Capillary pulsation may be found, for example, after violent exercise on a hot day when the skin vessels are well dilated; and in cases of exophthalmic goitre when there is a large pulse pressure. But, of course, most of the well-marked cases are found in aortic incompetence.

This applies still more forcibly to the water-hammer pulse. If one was allowed only to feel the pulse, and did not see the patient at all, one would often be wrong about a water-hammer pulse. The elderly man with sclerosed arteries may have a high pulse pressure, and give much the same feel as the water-hammer pulse. It is true that there is a difference. One may have a patient with aortic incompetence whose systolic pressure is 120 and diastolic 60; the corresponding figures for a patient with arterio-sclerosis may, perhaps, be 160 and 100. With aortic incompetence there is a sudden drop as well as a sudden rise, while with arterio-sclerosis there is probably just the same sort of rise, but the fall is slower. The difference can be shown quite well instrumentally, and sometimes can be recognised on the fingers. The water-hammer pulse, therefore, can be quite misleading.

On the other hand, when aortic incompetence has been diagnosed, then the presence of a water-hammer pulse or of capillary pulsation becomes important, because it helps to estimate how severe the leak is. If a patient has a diastolic murmur and does not show capillary pulsation and water-hammer pulse it is a slight case; if there is a good deal of regurgitation during diastole he will show these two things well.

The pulse pressure does not help in any way to diagnose aortic incompetence, because it is not always large in these cases, and may be large in others; but having diagnosed incompetence, the blood pressure, diastolic and systolic, should always be taken, and the pulse pressure will give some measurement of its degree. If one has got only the difference from 120 to 90, it is obvious, however loud the murmur, that there is not a great deal of leak, or the diastolic pressure could not be kept up at that high figure; on the other hand, in severe cases it may be found that the systolic is 160 and the diastolic 40 or under. It does not follow that the severe case of incompetence is going to do badly and the slight case well, because one may have slight incompetence with good heart muscle. Therefore, there are other things to be taken into account, but the pulse pressure is important.

Next as regards the diagnosis of aortic stenosis. If there is aortic incompetence and a rough systolic murmur and thrill, one can be certain that there is also stenosis. If there is rheumatic aortic incompetence and a rough systolic murmur there is probably stenosis, even if no thrill can be felt. If there is a rough systolic murmur and thrill, even without evidence of incompetence, there is aortic stenosis; but this will practically always be in patients over 45, and generally over 60, except in the rare cases of congenital aortic stenosis. Aortic stenosis is not diagnosed frequently enough because people do not feel for the presence of a thrill. In doubtful cases it is best felt with the patient standing up at the end of expiration. The other difficulty is the presence of a thrill in some syphilitic cases owing to the dilatation of the aorta above the aortic valves. Here the wide aorta above the valves produces the same signs as

(a) (b) (c)

FIG. 1.—Preponderance of the Left Ventricle (large R in lead I and large S in lead III) in Aortic Incompetence. (*a*) From a girl of 18 with rheumatic aortic incompetence. (The presence of this and the absence of any great degree of mitral stenosis were confirmed post-mortem.) (*b*) From a woman of 25 with rheumatic aortic incompetence and slight mitral stenosis. (*c*) From a man of 22 with rheumatic aortic stenosis and incompetence, in whom the T waves are inverted in all leads.

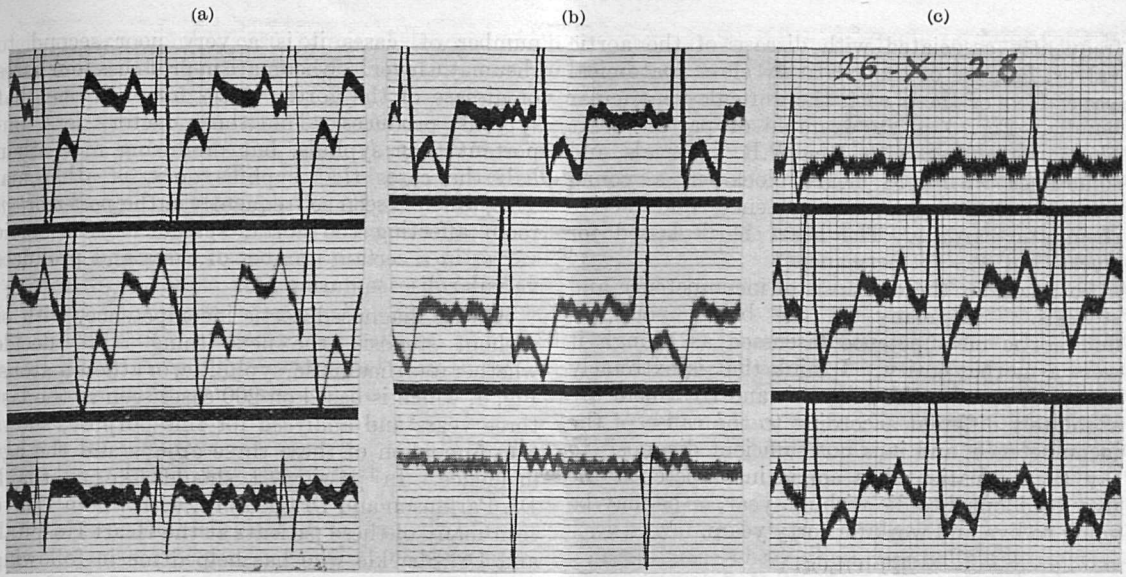


FIG. 2.—Changes in the S-T interval in Aortic Incompetence. (*a*) In leads I and II; from a girl of 18 with rheumatic aortic stenosis and incompetence. (*b*) In leads I and II; from a man of 67 with angina and atheromatous aortic stenosis and incompetence. (*c*) In leads II and III; from a woman of 40 with syphilitic aortic incompetence. This last patient shows no preponderance of the left ventricle.

stenosis of the valves. The report on a patient with heart disease is not complete without a definite statement that a thrill is or is not present. The mere absence of any comment is useless, because one does not know if a thrill was felt for. Aortic stenosis is present in at least one-third of the cases of rheumatic aortic incompetence.

The electro-cardiogram gives little help in the diagnosis of aortic disease, but in many cases, especially where there is no mitral stenosis to balance it, there is preponderance of the left ventricle. This is shown in all the examples in Fig. 1. In some cases (*e.g.*, 1 *c*) the T waves are inverted in leads I or II or in all leads. In other cases, the whole of the S-T interval is abnormal and something like the changes seen in coronary thrombosis (*see* Fig. 2). Sometimes there are unusually large ventricular excursions (*e.g.*, Fig. 2, *a*, *b*).

It is worth remembering that cases of heart block and of bundle branch block are not in-

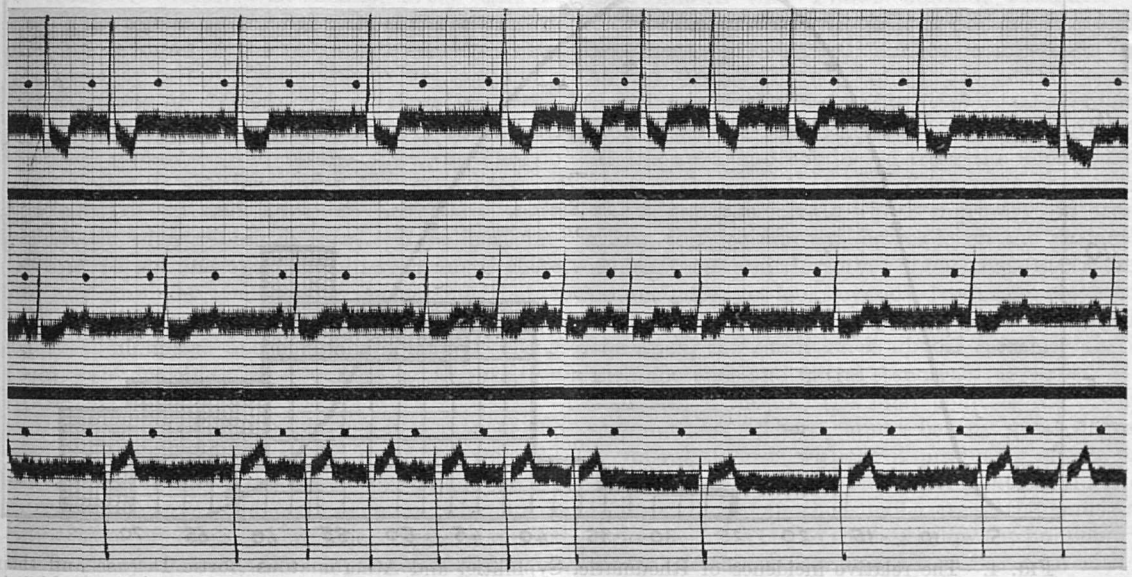


FIG. 3.—Partial Heart Block in a young woman of 26 with rheumatic aortic incompetence, pericarditis and myocarditis. (The dots above each record indicate the auricular P waves.)

frequently associated with disease of the aortic valves, because of the relatively close anatomical association of these with the auriculo-ventricular bundle. Fig. 3 is an example of partial heart block, sometimes with long P.R. intervals and sometimes with 2 : 1 heart block—in a young woman with aortic incompetence and active rheumatic carditis. The heart block lasted for weeks, but was not permanent.

So much for the diagnosis of incompetence and stenosis. In many of the books you will find aortic incompetence discussed as though it were a morbid entity. I think that is extremely unsound, because the prognosis and treatment are absolutely different according to the cause of the incompetence, and it is not sufficient diagnosis to say that a patient has aortic incompetence—he may be doomed to die within a year, or he may be going to live and work for forty years.

ÆTIOLOGY

The next question is, What is the ætiology? This has more effect on prognosis and on treatment than anything else. There again, it is a simple and definite matter, for there are only three things that produce disease of the aortic valves—there are rare exceptions, but for practical purposes this is true. When one recalls the extraordinary number of bacterial infections with which one is familiar, it is curious that only three pathological processes should be known to affect the valves.

Sometimes people think first of syphilis in connection with aortic disease, but as regards the number of cases it is a very poor second to rheumatic fever. Rheumatism produces four cases of disease of the aortic valves for each one that syphilis produces. The third factor, less important than syphilis, but producing more than half the cases that syphilis does, is atheroma. This, which is seen so frequently in the *post-mortem* room affecting the aorta, spreads to the aortic valves in a certain number of cases and produces valvular disease during life.

Having diagnosed aortic incompetence, with or without stenosis, the next thing is to decide whether it is rheumatic, syphilitic, or atheromatous. Fig. 4, which is based on 200 cases seen in the last three years and analysed for this purpose, shows the proportion of these three groups and the age incidence. In passing, I should like to thank Dr. Parkinson and Dr. Bedford, with whom I have seen many of these patients at the Heart Hospital, and Dr. Shackle who has helped me in following up the Guy's patients. Out of these 200, 140 were rheumatic, 33 syphilitic, 19 atheromatous, and 8 belonged to an indeterminate group, but it is probable that several of these were rheumatic.

To classify a case of aortic disease as rheumatic, two things have been made use of: firstly, a history of rheumatic fever and, where there was no such history, the presence of mitral stenosis. This has been taken as evidence enough, since most people now agree that mitral stenosis, at any rate, in those under 50, is only produced by rheumatic infection. I think that a few in the doubtful

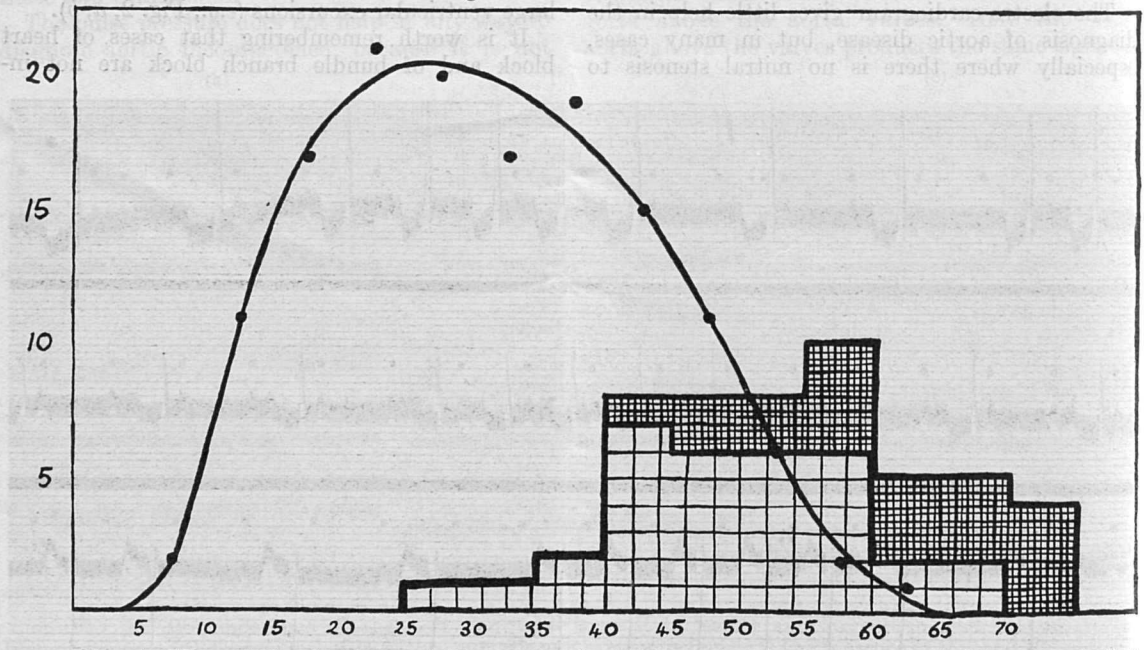


FIG. 4.—The relative incidence of Rheumatic, Syphilitic, and Atheromatous Aortic Disease and their Age Incidence. The curve shows the age incidence of 140 rheumatic cases, the lightly shaded area of 33 syphilitic cases, and the darkly shaded area of 19 atheromatous cases. (Age groups 5–9, 10–14, etc.)

group correspond to cases of mitral stenosis, which are assumed to be rheumatic, though they have no history of rheumatic fever.

The first thing, therefore, in discussing the ætiology is to remember that rheumatism is on numerical grounds the most likely, and at certain ages much the most likely. If there is a clear rheumatic history or if there is mitral stenosis, it is almost certain. After this the age is important, although, of course, it only suggests probabilities. Rheumatic disease appears at every age, but practically all these cases were between 10 and 50 and nearly three-quarters were between 15 and 45. People sometimes have an impression that aortic stenosis develops in old persons after they have had aortic incompetence for many years. The chart (not reproduced here) shows that is not true. It depends more on the severity of the disease than on the time that has elapsed, for though, of course, it does not develop in a month it may develop in a very few years.

Age, again, makes no difference to the question whether there will be aortic disease as well as mitral disease. (Another chart showed that the age incidence of these two groups was the same.) On the whole, it is the more severe cases of rheumatic fever and cases subject to more frequent attacks which are most likely to have aortic disease. The severity or frequency of attacks is the governing factor rather than the age incidence.

I have spoken of rheumatic aortic disease without mitral stenosis. That is justifiable clinically, for we see many cases where there is no evidence of mitral stenosis. But in the pathological sense it is true, of course, that nearly every case of rheumatic aortic disease has some slight changes in the endocardium of the mitral valves, though the changes may be too slight in themselves to produce clinical signs of stenosis. It is, therefore, justifiable to talk about pure aortic cases as rheumatic.

In the syphilitic group on the chart, there are no cases under 25 and few under 40 ; even between the ages of 40 and 45 there are many more rheumatic than syphilitic cases. It is most important to get the Wassermann reaction if there are any grounds whatever for suspecting that a case is syphilitic; but occasionally one must be ready to diagnose aortic incompetence resulting from syphilis, even where there is a negative Wassermann.

If one has aortic incompetence in a man of 40, who gives a history of syphilis (or of any venereal disease which may have masked syphilis) that is fairly conclusive evidence, even in the small proportion of cases where the Wassermann is found to be negative. One can do so much for the syphilitic cases that it is quite justifiable to treat them as such.

Stenosis is the next thing to consider. If a patient has this, it almost rules out the syphilitic process, which in the aortic valve never produces stenosis. There is a localised inflammatory change, a localised fibrosis. The few patients in whom there is stenosis with syphilis are elderly people where atheromatous changes have occurred on the basis of an old syphilitic lesion.

Rheumatic aortic disease becomes uncommon after 50, and atheromatous aortic disease is uncommon below that age, so that here age does become an important deciding factor. The rheumatic case of aortic stenosis always has incompetence. In some of the atheromatous cases there is simply roughening and thickening of the valves, and aortic stenosis develops without any signs of aortic reflux. It may be that at the *post-mortem* a small leak will be found if the valves are tested with water, but practically this is one of the exceptions, where there is stenosis without incompetence. If, therefore, one gets a loud, rough murmur and an easily palpable systolic thrill one can feel perfectly certain of aortic stenosis, even in the absence of any incompetence, provided the aorta is not greatly dilated.

As a final point, evidence should be found of atheromatous changes elsewhere. They may be in the arteries as a whole, the peripheral arteries may be thickened, or an X-ray examination may show that there is a wide, easily visible, or even a calcified aorta.

There is one other point about X-ray examination in settling the presence of mitral stenosis in doubtful cases. I have used the presence of mitral stenosis to help in differential diagnosis, but it is well known that Flint's murmur simulates it closely, so that sometimes it is difficult to decide whether a patient with aortic incompetence has mitral stenosis or not—indeed, in certain cases, decision is almost impossible by physical examination alone. If there are loud murmurs, audible at the apex and conducted from the aortic area, that is evidence that they come from the aortic valve, and you have a Flint's murmur. In other cases, the decision can be made on the patient's appearance and history. If he has aortic incompetence, yet looks cyanosed and high coloured, with murmurs that would do for mitral stenosis at the apex, the condition is almost certainly aortic incompetence and mitral stenosis.

If still in doubt, the final point is the X-ray examination. There cannot be any great degree of mitral stenosis without it producing effects on the shape of the heart, an enlargement behind and to the right and another smaller area—the conus arteriosus—filled out to the left below the pulmonary artery. If this appearance is seen in a case with a doubtful Flint's murmur, that will settle it. The case of pure aortic disease without mitral stenosis

will give quite a different X-ray picture, with no enlargement to the right, much enlargement to the left, and a broad blunt apex. One sees at the same time the immense pulsation of the aorta, which is characteristic. Often, without looking at anything at all except the X-ray appearance of the heart, one can say that one patient has mitral stenosis and another aortic incompetence.

There is one other way in which X-ray examination will help in the diagnosis between rheumatic and syphilitic cases. The former will not show any changes in the aorta except the extreme pulsation, while the latter may show a gross aneurysm, and in a much larger number of cases some bulging to the right in the first part of the aorta.

Other rare causes of aortic disease are congenital aortic stenosis, and incompetence due to infective endocarditis.

PROGNOSIS AND TREATMENT

Prognosis really depends on the ætiology. That is why it is wrong that cases of aortic incompetence should all be taken together. The prognosis in rheumatic cases is often extremely good; the patients may live and work for 20 or 30 years, and you are going to judge their capacity, partly by the degree of the leak as shown by the pulse pressure, but mainly by the general condition of their heart muscle—if they are in the early stages, by what they can do, their response to an exercise tolerance test, or their vital capacity; and in the more serious cases, by the signs of heart failure or the presence of auricular fibrillation. Their prognosis depends on these considerations, not on the mere presence of aortic incompetence.

Although rheumatic aortic incompetence proves that the heart is affected, and generally means that the patient should not have a very laborious life physically, it does not mean a bad prognosis and is consistent with a fairly active life for 20 or 30 years. Even if there is aortic stenosis that is still true. It is itself a benign lesion, unless the opening is very greatly restricted, but many of the patients you see in hospital with aortic stenosis are children after repeated attacks of rheumatic fever, in whom aortic incompetence and stenosis are a small part of the picture, for they have, perhaps, adherent pericardium, or mitral stenosis, or an enormous heart.

The prognosis of patients with syphilitic aortic incompetence is bad; there are a relatively small number alive after two years. They generally respond to anti-syphilitic treatment at first, but most of them get heart failure and die within two years. Treatment is far more important in these cases than in others, because if it is started early and persisted with, a few patients are found who go on improving and after four or five years the active process is apparently healed. They are left, of course, with aortic incompetence; but they have settled down to a stage when there is nothing but a scar, and nothing likely to make them go downhill again quickly.

With regard to treatment, I should like to stress the importance of using mercury over long periods. Generally, the patients ought to be started on novarsenobenzol or some substitute of that type. One finds, in a few cases, that it lights up the syphilitic process and produces heart failure, so that it is not absolutely without risk; yet the best results are obtained with one or possibly two courses of novarsenobenzol to start with. After this, the patient should be put on iodides and mercury, and should have them for three or four years, though he will only need the mercury, and perhaps the iodides, intermittently. It is necessary to see that his teeth are in good condition because mercury must not be given to a patient with a bad mouth. With this precaution, and with vigorous treatment, a certain number of cases will do really well, and after three or four years some of them will have settled down to a fixed point from which, it may be hoped, they will not decline. But in spite of treatment, the prognosis of most syphilitic cases remains very bad, and many die in the first two years.

The atheromatous are more like the rheumatic cases. It is mainly on these that aortic stenosis has acquired its reputation as a harmless lesion, though also because the syphilitic cases which do so badly are not associated with stenosis. In an elderly man who has aortic stenosis from atheroma, there are almost certainly enough general atheromatous changes to make it impossible for him to do hard work. He is probably leading an easy life already, therefore, an ideal life for his condition, and no specific treatment is going to affect the changes in the valve. The treatment is only giving him an easy life, and preventing his angina if he has it, for the association of aortic disease and angina is a dangerous one. Rheumatic cases are not very often associated with angina; atheromatous and syphilitic cases are, because the processes concerned start in the aorta and have travelled up to the aortic valves, where they are very likely to affect the mouth of a coronary artery. The treatment, therefore, really resolves itself into treatment of the associated conditions like heart failure, fibrillation, or angina, and the choice of an occupation which is not too strenuous.

Remember, finally, what your diagnosis will mean to the patient. Valvular disease of the heart is a well-known term to many laymen, and to them, they are words of evil omen. If there is no evidence of anything more than slight valvular disease, be sure that your words do not convey too gloomy a prognosis; and even more important, be sure that you do not diagnose the condition where it does not exist.

Hardy Annuals

AN extract from *The Observer* of June 28th, 1829, published in that paper on June 30th, of this year, shows that complaints about the abuse of Hospitals are by no means new. The paragraph is as follows :—

"Mr. Harrison* boasted in his evidence before the Anatomical Committee that nearly 40,000 out-patients have received assistance at Guy's Hospital in one year, and that these individuals were not paupers, but artificers and inferior tradesmen. We have ourselves (says the *Lancet*) seen persons receive advice in the public surgery of that hospital from Sir Astley Cooper, who had gone there in gigs, attended by livery servants."

The cry is still going up that patients are seen by Hospitals who should not be so seen and who could pay for their advice in private. But one thing is quite certain, and that is, that the Surgeons themselves now never attend in the Front Surgery as did Sir Astley Cooper. Gigs have disappeared, and livery servants are now rare, but the number of motor cars in the front square on visiting days might lead one to suppose that many of the patients in the Hospital had quite well-to-do friends. A more careful inspection of the cars and of the passengers would, however, probably convince an accurate observer that this would not commonly be true. The possession of a motor car is, nowadays, no certain indication of wealth. At any rate, the Hospital may congratulate itself that neither the authorities nor the staff, at the present time, encourage others than the indigent poor to receive free treatment at the Hospital.

As a matter of fact, it is the experience of the Out-Patient Enquiry Officer that the great majority of those patients applying for treatment at the Hospital who would ordinarily be considered as financially ineligible, are sent up by medical practitioners.

It is rather surprising to find that as many as 40,000 out-patients were seen annually at Guy's as long ago as 1829, but the figure is probably correct; for when the Charity Commissioners made their survey of Guy's Hospital in 1840 they gave the number then as 37,760 and added that they thought this number was much within the truth.

The Charity Commissioners' Report in 1840 also brings home to one that educationalists were then discussing a problem which has not yet been solved. That problem was the comparative merits of education by whole-time salaried teachers and of education by the part-time services of an honorary medical staff. The Charity Commissioners made the following comments on this problem :—

"Different views are entertained by many members of the medical profession on several questions concerning the hospital.

Of these the most important is the comparative merits of the plan adopted in some of the continental hospitals, of appointing a single medical officer, with a remunerating salary and competent paid assistants, to reside within the walls and devote his whole time and attention to the patients, abstaining altogether from private practice; and of the system described above, where the salaries from the funds of the charity are trifling, but the indirect advantage most valuable, while considerable pecuniary profits are derived from the schools.

The former plan, it is alleged, would not only secure more constant and uninterrupted attention to the patients, but would be more conductive to the perfection of medical science. On the other hand, it was alleged that the present combination of private and hospital practice is highly advantageous. That no inconvenience results from the admission of patients under different medical officers, who in obscure and difficult cases assist and advise each other, and thus bring the combined knowledge of several experienced persons to bear on the same question. It was also stated, that while the more advanced stages of disease may be better studied in a hospital than elsewhere, the early symptoms are not usually to be observed there, as patients in general have recourse to private medical advice in the earlier stages of their disorder, and defer an application to a hospital till it has assumed a more serious aspect. It thus becomes almost impossible to acquire a complete acquaintance with different diseases, without combining private and hospital practice. This difficulty is particularly felt in organic cases, and to so great a degree, that in order to complete their education, medical men are sometimes compelled to receive poor patients gratis, to supply the deficiency of incipient cases in the hospital. It is likewise adduced, as another advantage of the present system, that by enlarging their sphere of practice and throwing them into contact with the practitioners belonging to other hospitals, it extends knowledge, and brings within their observation, improvements in medicine and surgery, of which they might otherwise remain in ignorance."

As is well known, for the past few years the University of London has been making the experiment of appointing whole-time Professors of

* The famous Treasurer of Guy's Hospital.

Medicine, Surgery and Midwifery at some of the Schools of the University, and the salaries of these whole-time teachers are paid out of grants from the Treasury Grants Committee.

It has now become apparent, however, that some of the Medical Schools in London, after a few years of experience of whole-time Professors, are anxious to change this system in favour of part-time Professors with whole-time assistants.

Thus, the wheel goes round the full circle, and, no doubt, in another hundred years' time both these questions will still be exciting active interests.

E.

Interviews with the Really Great

I.—THE PRESIDENT OF THE RESIDENTS

I WAS introduced to the Great Man at breakfast. As was his custom he had risen with the lark and it was then barely 11 a.m. Even at this early hour his appearance preserved that air of elegance and neatness for which he is famed, and the muffler round his neck revealed only the fashionable amount of highly-coloured pyjama below, while his grey flannel trousers fell in graceful folds over his carpet slippers. He was patiently reading the morning paper while his breakfast was being prepared for him. "I never mind waiting for my breakfast," he said, politely laying down his paper and giving me his attention. "It's always so perfectly cooked when it does arrive—and anyhow I rarely have to wait more than half-an-hour." At that moment a waitress bustled up and politely apologised for the absence of tomatoes. "Oh, never mind," said our President, "anything will do. I'm in no hurry." Truly a great man, I thought. "What is your opinion of this Hospital, Mr. President?" I asked. He thought awhile before replying, and then he answered in measured and considered tones, "I think it is a very great Institution. There are few improvements that I could suggest, and, in particular, I think the attitude of the authorities towards the Residents calls for the utmost praise and admiration. It is true that we are not paid for our services, but then which of us would care to accept any emolument for our paltry efforts?" "Too true; which, indeed?" I put in quickly, scribbling hard all the time. The President continued, "You see, we are treated so well that its a positive joy to live here, apart altogether from our work. Why, do you know, in the cold weather hot-water bottles are put in our beds at night and cocoa and sandwiches sent up to our rooms when we are called out to see cases. The food is uniformly good and exquisitely served, while our rooms combine the greatest comfort with the most beautiful decorative arrangement." He paused for some time, apparently wrapped in sublime contemplation of the beauties of existence, and was only aroused from his study by the arrival of his breakfast. After one or two tentative bites, he cast the rest of his breakfast carelessly out of the window and heaved a deep sigh. "Even the best of cooks cannot attain perfection always," he murmured, as he hastily swallowed a cup of tea. I seized the opportunity to put a question that had been on the tip of my tongue for some time. "Do you have to do much work, Mr. President?" I asked him. The President seemed a little hurt. He looked at me reproachfully and said, "I am President of the Residents. I don't have to work at all." "Oh, I see," I politely expressed by complete understanding. Then some demon seemed suddenly to take possession of the President. Seizing a toast-rack he beat loudly upon the table. From behind the glass screen at the end of the room there came the sound of girlish laughter. This spurred him on to greater efforts. Picking up a chair he hurled it forcibly at the glass screen. This he followed up with a shower of plates, knives, cups, tea-pots and small tables. The girlish laughter increased in volume and girlishness. As suddenly as it had appeared so did the devil leave the President, who rose resignedly from his chair and quickly left the room, muttering to himself that he would have a free tea instead. Truly a great man.

BROWSER.

"PRES. RES."

Correspondence

The Biennial Dinner, 1929

To the Editor of the GAZETTE

SIR,—The arrangements for the Biennial dinner are gradually being perfected.

Up to the present the following have promised to be Vice-Chairmen :—

J. H. Gibson (1882) ; Robley Browne (1887) ; T. G. Stevens (1890) ; L. R. Broster (1914) ; R. B. P. Lansdown (1919) ; F. D. Howitt (1925) ; C. L. Worthington (1925).

The date of the dinner is Friday, October 18th, and our Chairman is Sir Maurice Craig.

Yours, etc.,

E. C. HUGHES.

17, Wimpole Street,
W.1.

Capt. Reinhold's Letter

To the Editor of the GAZETTE

SIR,—I was much interested to read in your issue of June 1st the interesting and truly prophetic letter of Captain (now Lieut.-Colonel) Reinhold on the subject of Amœbiasis. As Mr. Fagge and Colonel Reinhold foresaw, tropical diseases are very much more common in England since the war, and are no longer the sole concern of the specialist in such diseases, but come well within the purview of the whole profession and especially of the general practitioner.

The years which have passed between the writing of Colonel Reinhold's letter and its publication have vindicated in a striking manner his contentions. Aspiration of liver abscesses, as advocated by Sir Leonard Rogers, has completely superseded open operation, and for the reasons given in the letter. Open operation even in highly skilled hands has proved so dangerous on account of secondary infection, and so troublesome as regards sinus formation, that no surgeon in India will now willingly employ the method. Aspiration, on the other hand, is simple and most efficacious ; and as Colonel Reinhold remarks, residual abscesses and secondary aspiration do not detract from its value. Modern radiography can help much in revealing the site of suppuration ; and open operation is only necessary when the collection is out of reach of the cannula. Another of Colonel Reinhold's impressions which has been amply confirmed in the ensuing years is the abortion of liver abscess after suppuration has commenced by the bold administration of emetine. Such cases have been fairly frequent in post-war literature, and two notable instances were published by Major Hayes in the *Indian Medical Gazette* of, I think, 1925. The value of emetine in pre-suppurative amœbic hepatitis is now a matter of almost daily experience ; and it would be interesting to know if Colonel Reinhold's subsequent experience coincides with my own : that the almost universal employment of this drug has altered the complexion of amœbiasis as seen to-day, as compared with the date of his letter, by decreasing the frequency of the classical liver abscess and bringing into bolder relief other less dramatic but more insidious and equally harmful sequels of amœbic infection.

In India, and in the tropics generally, amœbiasis is claiming and receiving intensive study. Colonels Action and Knowles of the Calcutta School of Tropical Medicine find that roughly 15 per cent. of all admissions are infected with entamœba histolytica, and these authorities consider amœbiasis as ranking only after malaria and tuberculosis as a cause of mortality in India. My own figures place amœbiasis second only to malaria as a cause of disability and ill-health, while 33 per cent. of patients seeking relief from abdominal trouble prove to be infected with entamœba histolytica. Dunn in China and James in Panama come to similar conclusions.

If, therefore, publications such as Colonel Reinhold's letter serve to stimulate the interest of the practitioner at home in amœbiasis they will have proved of great use not only to the profession but to numbers of Europeans who seek advice when on leave for vague and ill-defined ill-health, which is too often conveniently but inaccurately ascribed to some obscure tropical influence and labelled "liver," "low fever," or "tropical neurasthenia."

For the rest, if with the passing of years emetine has failed fully to justify its early promise of proving an absolute specific for amœbiasis, especially in chronic cases, the fact does not challenge the drug's position as the premier stand-by in its treatment, nor does it detract from the lustre surrounding the name of its discoverer. Colonel Reinhold is to be congratulated not only on time's vindication of his contention, but upon his very felicitous expression of the pride of the Service in Sir Leonard Rogers.

Yours, etc.,

J. B. HANCE,
Major I.M.S.

Rajkot.

The late Major-General Pollock

To the Editor of the GAZETTE

SIR,—I notice your correspondent C. J. S. refers to a letter written by C. B. B. P. in your issue of 15th June. On referring to that issue I see that the initials are C. B. R. P., so there is another error. Mr. Jacobson, for whom I had the pleasure of being a dresser, always signed his name as I have written it. The late Sir Henry Howse certainly operated in a most sanguinary old frock coat which, admittedly, was saturated with carbolic spray, and, no doubt, was never used in the P.-M. room. I was his ward clerk and my notes must have been obscured by this bountiful supply of a very irritating antiseptic. However, it was an early effort at "Listerism." Things have changed since forty years ago. With apologies for bad spelling and a very happy recollection of the late Major-General C. E. Pollock.

Yours, etc.,
R. E. G. P.

Oakfield,
Montgomery,
N. Wales.

Sport

Guy's v. St. Ann's

THIS match was played at Virginia Water on Wednesday, July 3rd, and resulted in a win for St. Ann's by 24 runs.

Guy's

S. R. Peatfield, b. Willis	16
T. D. Ridsdale, b. Escombe	7
J. A. G. Starnes, run out	0
E. V. B. Widdowson, b. Llewellyn	13
D. J. Rees, c. & b. Escombe	0
A. J. D. Lewis, c. Escombe, b. Willis	0
R. J. Eustace, *not out*	25
G. Barwell, c. Blaber, b. Willis	16
D. E. Marshall, b. Willis	3
J. P. O'Shea, b. Willis	0
J. B. Schofield, c. Jarvis, b. Willis	4
Extras	11
Total	95

St. Ann's

E. Llewellyn, l.b.w. b. O'Shea	8
E. Jarvis, run out	0
L. A. Escombe, not out	57
A. Blaber, ct. Rees, b. Lewis	27
Rev. Harding, c. & b. O'Shea	8
H. Davey, b. O'Shea	2
J. Newton, ct. Rees, b. Barwell	3
L. Hawkes, ct. Ridsdale, b. Barwell	0
A. Willis, b. Barwell	5
Dr. Hamilton, b. Eustace	0
M. Myoldby, b. O'Shea	2
Extras	7
Total	119

Bowling—O'Shea 4 for 37, Eustace 1 for 18, Lewis 1 for 15, Barwell 3 for 32.

Guy's v. Herts Wanderers

THIS match was played at Micklefield Hall on July 10th, and resulted in a win for our opponents, after an exciting finish. J. A. G. Starnes batted well for the Hospital, scoring 90 not out.

Guy's

S. R. Peatfield, c. Mole, b. Lane	5
R. J. Eustace, b. Lane	11
T. D. Ridsdale, c. Simons, b. Marsh	5
G. J. Clarke, c. Loveday, b. Marsh	16
E. V. B. Widdowson, c. Day, b. Marsh	6
D. J. Rees, c. Brodie, b. Harvey	0
J. A. G. Starnes, not out	90
A. J. D. Lewis, l.b.w. b. Marsh	4
G. Barwell, b. Lane	1
J. R. F. Popplewell, b. Marsh	12
L. E. Marshall, st. Mole, b. Marsh	23
Extras	11
Total	184

Herts Wanderers

E. G. Gansford, ct. Barwell, b. Rees	2
F. Loveday, c. Popplewell, b. Clarke	32
D. A. Brodie, c. Clarke, b. Rees	5
H. M. Lane, b. Eustace	12
G. Simons, b. Rees	31
W. H. Marsh, c. Eustace, b. Lewis	33
T. R. Taylor, c. Peatfield, b. Clarke	28
A. F. Day, b. Lewis	1
S. P. Mole, not out	8
T. R. Harvey, not out	23
Extras	16
Total	191

Bowling—Rees 3 for 57, Lewis 2 for 35, Clarke 2 for 38, Eustace 1 for 31.

Guy's v. Honor Oak

THIS match was played at Honor Oak on Saturday, July 6th, and resulted in a draw. S. R. Peatfield batted well for the Hospital, scoring a valuable 114 not out.

Guy's

S. R. Peatfield, not out	114
J. A. G. Staines, b. Nicholl	1
T. D. Ridsdale, b. Nicholl	9
G. J. Clarke, c. & b. Best	21
A. J. D. Lewis, b. Best	1
D. J. Rees, c. Nicholl, b. Edwards	13
E. V. B Widdowson, c. Nicholl, b. Best	9
G. Barwell, not out	17
R. Outfin, b. Recordon	10
Extras	10
Total (for 7 wkts.)	205

J. R. F. Popplewell and J. P. O'Shea did not bat.

Honor Oak

L. Recordon, c. Rees, b. O'Shea	49
— Nichol, b. Lewis	45
E. Weymouth, l.b.w. b. O'Shea	23
E. Mulley, st. Outfin, b. O'Shea	2
C. H. Weymouth, c. Barwell, b. O'Shea	5
— Best, not out	16
P. W. Mulley, not out	9
Extras	9
Total (for 5 wkts.)	158

H. Eaitch, Sudbury, Kilby and Edwards did not bat.

Bowling—O'Shea 4 for 55, Lewis 1 for 29.

Guy's v. Old Charlton

THIS match was played at Honor Oak Park on Saturday, July 13th, and resulted in a win for the Hospital by a margin of 109 runs.

Guy's won the toss and elected to bat. We started badly, no fewer than 7 wickets being down for 42.

However, Marshall and Barwell made a valuable stand, the former scoring 95 before being caught by Barnes off Martin.

Guy's were all out for 181.

Old Charlton found it difficult to score off the bowling of O'Shea, Clarke and Barwell, and were all out for the small total of 78.

Guy's

R. J. Eustace, c. Warburton, b. Shrimpton	0
E. V. B. Widdowson, b. Shrimpton	3
T. D. Ridsdale, run out	0
J. A. G. Starnes, c. Goodway, b. Shrimpton	8
A. J. Clarke, c. Goodway, b. Shrimpton	0
A. J. D. Lewis, l.b.w. b. Shrimpton	0
D. J. Rees, l.b.w. b. Martin	14
R. E. Marshall, c. Barnes, b. Martin	95
R. Outfin, st. ——, b. Leach	21
G. Barwell, c. Cooper, b. Newman	31
J. P. O'Shea, not out	1
Extras	8
Total	181

Old Charlton

Warburton, c. & b. O'Shea	10
Bishop, run out	4
Shrimpton, b. O'Shea	4
Owen, b. Barwell	15
Barnes, c. & b. Barwell	20
Leach, run out	6
Cooper, c. Starnes, b. Barwell	2
Neale, b. Clarke	0
Newman, not out	3
Martin, b. Clarke	6
Goodway, run out	1
Extras	1
Total	72

Bowling—O'Shea 2 for 23, Clarke 2 for 3, Barwell 3 for 29.

Guy's v. Pinner

THIS match was played at Pinner on Wednesday, July 17th, and resulted in a win for the Hospital by 92 runs.

Guy's

H. Cameron, b. Glanfield	0
T. D. Ridsdale, run out	41
E. V. B. Widdowson, c. Stoyles, b. Baxter	15
G. J. Clarke, c. Stoyles, b. Roncoroni	21
D. J. Rees, b. Roncoroni	11
G. Barwell, c. Parry, b. Glanfield	21
J. R. F. Popplewell, b. Roncoroni	26
R. A. P. Hogbin, b. Roncoroni	30
A. R. Clarke, c. Parry, b. Glanfield	7
S. M. Whitteridge, b. Parry	39
A. E. Williamson, not out	24
Extras	47
Total	282

Pinner

Stoyle, c. Widdowson, b. Hogbin	48
Roncoroni, c. A. R. Clarke, b. G. Clarke	7
Parry, b. G. Clarke	12
Baxter, b. Cameron	33
Kitchen, c. G. Clarke, b. Hogbin	9
Glanfield, b. Cameron	53
Smit, not out	6
Inman, st. Williamson, b. Cameron	3
Campbell, b. Cameron	1
Groves, b. Widdowson	7
Caldwell, l.b.w. G. Clarke	1
Extras	10
Total	190

Guy's v. Three Counties

THIS match was played at Arlesey, on Saturday, July 20th, and won by our opponents by 80 runs.

Guy's	
H. Cameron, st. Page, b. Burley	50
T. D. Ridsdale, b. Gibbs	1
L. E. Marshall, c. Goddard, b. Albon	7
E. V. B. Widdowson, run out	11
G. Barwell, b. Buckley	6
R. A. P. Hogbin, b. Buckley	4
S. M. Whitteridge, b. Gibbs	0
D. J. Rees, run out	54
G. J. Clarke, b. Ward	17
J. R. F. Popplewell, b. Gibbs	6
A. R. Clarke, not out	1
Extras	11
Total	168

Three Counties	
I. O. Fuller, l.b.w. b. Clarke	15
J. H. Buckley, b. Clarke	9
P. I. Ward, c. A. R. Clarke, b. Whitteridge	33
E. Albon, b. Clarke	63
H. B. Goddard, b. Widdowson	92
G. Crawly, run out	6
H. Presland, b. Clarke	0
E. Page, b. Clarke	0
P. Robinson, c. & b. Widdowson	6
A. Hayward, not out	7
E. Gibbs, b. Widdowson	5
Extras	12
Total	248

Golfing Society.

Dental Staff v. Dental Students

THE annual match of Dental Staff *v.* Dental Students was played at Chislehurst on Thursday, July 4th. After a thoroughly wet morning, the weather proved kind and the afternoon and evening turned out fine and sunny. It was a great day all round, and the thanks of the students are due to the untiring efforts of Mr. Kelsey Fry and the Staff to ensure a complete and conspicuous success. After the match K. Whitworth, on behalf of the Students, propossed a vote of thanks to the Staff for their generous hospitality. Mr. Fry, in replying, said that although under the impression that he had gone to Chislehurst to play bridge, it had, however, once again been a great pleasure to entertain the Students. Three cheers were then given for Mr. Fry.

Mr. Hooper was, unfortunately, unable to turn out.

The match resulted in a win for the students by 8 matches to 4.

Results—

SINGLES

Staff		*Students*	
Mr. Cann (4 & 2)	1	Thornton	0
,, Malleson	½	Mountain	½
,, Malone (5 & 3)	1	Whitworth	0
,, Kelsey-Fry	½	Symonds	½
,, Bulleid	0	Gaffney (5 & 4)	1
,, Hopson	0	Goodman (3 & 2)	1
,, Archer	0	Hole (7 & 6)	1
,, Tupling	0	Eustace (1 up)	1
	3		5

FOURSOMES

Mr. Cann, Malone	(4 & 2) 1	Thornton, Mountain	0
,, Malleson, ,, Hopson	0	Whitworth, Goodman	(2 & 1) 1
,, Kelsey Fry, ,, Tupling	0	Symonds, Eustace	(1 up) 1
,, Bulleid, ,, Archer	0	Gaffney, Hole	(3 & 2) 1
	1		3

Guy's v. Dr. Knott's Team

THROUGH the kindness of Dr. F. A. Knott, Guy's Hospital played a team representing Royal Wimbledon Golf Club at Wimbledon on Wednesday, July 3rd. The match consisted of singles in the afternoon and foursomes in the evening, and turned out a great success.

The match resulted in a win for Royal Wimbledon by 8½ matches to 3½.

Results—

SINGLES

Guy's		*Royal Wimbledon*	
W. Cann	0	Tippett	1
H. B. Thornton	½	Hughes	½
J. Johnstone	0	Wilson	1
P. H. Lomax	0	Witts	1
W. L. Mountain	1	Pearce	0
K. Whitworth	0	Pearce (Junr.)	1
F. A. Knott, C. D. Malone	1	Harper	0
R. Lomax	0	Spiller	1
	2½		5½

FOURSOMES

H. B. Thornton, W. L. Mountain	1	Hughes, Sketch	0
F. A. Knott, L. W. Cann, J. Johnstone	0	Worth, Burton	1
P. Lomax, C. D. Malone	0	Wilson, Pearce	1
R. Lomax, K. Whitworth	0	Spiller, Pearce (Junr.)	1
	1		3

Hospital Information, etc.

Pass List.

SOCIETY OF APOTHECARIES OF LONDON
PRE-MEDICAL AND PRIMARY EXAMINATIONS
July, 1929
Anatomy

T. E. Mitchell. S. E. Roberts.

UNIVERSITY OF LONDON
M.D. EXAMINATION
July, 1929
BRANCH I—Medicine

S. Berman

M.S. EXAMINATION
July, 1929
BRANCH I—Surgery

R. Brooke

2ND EXAMINATION FOR MEDICAL DEGREES
PART II—July, 1929

T. P. Binns	J. C. Colbeck
F. Crowther	T. A. Gavin
D. H. Irish	W. W. Jones
I. Levy	R. M. Outfin
W. S. Pitt-Payne	C. B. R. Pollock
G. C. Post	R. G. Reid
G. C. Sawyer	S. B. Smith
W. M. Smith	S. W. Wright

MEDICAL SCHOOL NOTICES

THE attention of all students who are studying for the Diplomas L.R.C.P., M.R.C.S., is drawn to the following alterations in the Regulations of the Conjoint Board :—

1. After October next, twenty-one days' (instead of fourteen days') notice is to be required for admission to the First and Final Examinations.

2. The necessary number of days' notice is to be reckoned from the first day of the First or Final Examination, as the case may be, and not from the date on which the part or section of the Examination in which the candidate desires to be Examined, begins.

3. In the case of students who complete a part of their curriculum at one University or Medical School, and the remaining part at another School, it is necessary for detailed certificates showing the curriculum (or Examinations) completed at each University or Medical School to be produced.

4. *All* the necessary certificates *must* accompany the application for admission to the Examination.

5. The Examination Fee should not be forwarded with the Schedule. The Regulations state that the Fee is due three days before the Examination commences and it should not be paid until the candidate receives his card of admission to the Examination.

6. It is for candidates individually who intend to take the Examinations of the Conjoint Examining Board to study the Regulations of the Board and it is notified that in future the Regulations relating to entry to the Examinations will be strictly complied with.

Students are reminded that they must leave their Schedules in the Medical School Office, for signature, at least one week before they are required to be sent in to the Conjoint Board.

GOLDING-BIRD GOLD MEDAL AND SCHOLARSHIP FOR BACTERIOLOGY, 1929

The following award has been made :—

Medal and Scholarship, C. K. Simpson,

THE HILTON PRIZE FOR DISSECTION

The Hilton Prize for Dissection has been awarded to B. McArdle, and a Certificate to R. S. Vine.

Change of Address

V. R. Preen, Lambert's Chambers, Church Street, Pietermaritzburg, Natal, South Africa.

H. M. Brown, M.R.C.S., M.R.C.P., "Kelso," Darkes Lane, Potters Bar, Middlesex. 'Phone : Potters Bar 18.

Sir Eric Stuart Taylor, M.D., Montpelier Lawn, Bath Road Cheltenham.

A. F Percy, 9, Third Av., Bangor Co. Down, Ireland.

L. Milner, 71, Tresillian Road, Brockley, S.E.4.

Dr. Richard Felton, Health Department, City Hall, Victoria, B.C.

Papers by Guy's Men

R. O. Moon, M.D., F.R.C.P. Some Observations on Diseases of the Myocardium, *Brit. Med. Jour.*, 1929, ii, p. 1.

J. B. Parfitt, L.D.S., M.R.C.S., L.R.C.P. Present-day Practice in the Extraction of Teeth, *Brit. Dent. Jour.*, 1929, l, 766.

R. N. Johnson, M.Sc., A.I.C., and C. S. Gibson, O.B.E., M.A., M.Sc., F.I.C. The Use of Plaster of Paris and Allied Substances for Dental Models, *Dental Record*, 1929, xlix, 349.

Alan H. Todd, M.S., F.R.C.S. Injuries of the Knee-Joint, *Clin. Jour.*, 1929, lviii, 313.

T. Izod Bennett, F.R.C.P. Charts of Fractional Test Meals. II. Abnormal Curves, *Lancet*, 1929, ii, 82.

R. P. Rowlands, O.B.E., M.S., F.R.C.S. Carcinoma of the Colon, *Clin. Jour.*, 1929, lviii, 337.

The Services

Capt. R. J. W. A. Cushing, M.B., to be Major, Territorial Army, R.A.M.C., October 14th, 1928.

Appointments

Dr. Richard Felton, M.B., B.S., D.P.H., appointed Medical Health Officer to the City of Victoria, B.C., Canada.

Birth

DE GALE—On June 21st, 1929, at Simla, to Eileen (née Brown) wife of H. O. de Gale—a son.

Marriage

TUCKER—HOBBS.—On June 21st, 1929, at the Church of the Sacred Heart, Bournemouth, P. A. Tucker, L.D.S., R.C.S., of Hereford House, Bournemouth, son of A. J. Tucker, of Exeter, to Dorothy Mary, elder daughter of Major and Mrs. H. Hobbs, of Bournemouth and Calcutta.

EDS. { O. P. E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLIII — 10*th August* 1929 — *Number* 1071

PASSIM

ALTHOUGH so well accustomed to outside criticism of our competence, our appearance, and even our intelligence, a hearty diatribe against our manners, and this from a professional source, comes as rather a shock and savours of the last straw. The current issue of the *Hospital Gazette* contains an article entitled "The House Surgeon," written by one "Juno," who would appear at one time to have been "chief executive officer" at a "medium sized county hospital," and who has found the average house officer too discourteous and inconsiderate for words, moreover frequently given to extravagance with apparatus or material, and altogether a personage likely to bring the utmost discredit upon the Voluntary Hospital system as a whole.

Juno applies her disparaging remarks more particularly to the resident staff at "Special Hospitals and to medium-sized General Hospitals." Consequently, here at Guy's, we may escape her shafts to a large extent, but we feel in duty bound to take up our pen in defence. Briefly, her main contention is that through either discourtesy, negligence or ignorance, house-officers are in the habit of causing trouble between the institution they serve and the Public, whether it be in the Coroner's Court, the Law Courts or the homes of the patients. This idea strikes us as being positively fantastic, and we feel sure that any hospital patient will agree that house-officers show remarkable patience, tact and understanding in their dealings with the occupants of their beds. In fact, the hospital resident shoulders responsibilities far in advance of his years, and on the whole bears the burden very ably.

Occasionally one sees a hospital involved in an awkward legal situation, but these occasions are relatively few and far between, and the number that can be laid at the door of a resident must be extremely small. Juno continues her article in a strain which does find some echo in our own mind. She complains that house-officers are usually lacking in knowledge and care on the question of economy of administration and that they have no conception of the relative value of medical and surgical stores, appliances and medicine. While agreeing that this has more than a grain of truth in it, we believe that a large part of the extravagance and waste that undoubtedly does occur at a hospital is unavoidable, and that little of it is caused by the residents, who, after all, are mainly under the instruction or wishes of their chiefs in any treatment they order.

As the *Lancet* points out, Juno's article, if it has accomplished nothing else, has at least, drawn attention to the position of resident house officers, a position which, in spite of the numerous consolations it offers, is no bed of roses. Here, again, we speak rather of the small hospital than of the large teaching hospital, where a house officer occupies a coveted position among his peers. At many hospitals there are only one or two very busy residents who consequently lack the "party" spirit; their board and quarters, though adequate, are seldom even mildly luxurious; their remuneration is paltry; the responsibility resting on their shoulders is immense; the experience they gain is extremely variable, the thanks usually conspicuous by their absence. Yet, in spite of all these handicaps, we defy Juno to produce more than one or two extremely isolated examples to support her contention.

▭

By defeating the London Hospital in the final round, on July 29th, of a competition for which 63 hospitals had entered, Guy's won the Nursing Times Lawn Tennis Challenge Cup for Nurses.

An account of the match appears elsewhere in this issue, but we should like to offer the team our heartiest congratulations on bringing back to Guy's a Cup which St. Thomas's have held for the past six years. Incidently, it was Guy's who beat the holders this year in the second round of the competition. Previously Guy's have held the Cup in 1922 and 1912–13–14, when we won the Cup outright.

▭

By reason of excessive adornment with trophies of the chase, the walls of the College Dining Hall have long been a distinct eyesore to many among those forced to spend several hours daily in such depressing surroundings. The well-bleached crania of many and varied kinds of hartebeeste can hardly be regarded as a valuable adjunct to digestion of the indigestible, and the crowded condition of the space above the Memorial Panel would seem quite definitely a mistake. We earnestly trust that the opportunity offered by the redecoration now in progress will be taken to the full, and that from the present Golgotha in the Pavy Gymnasium only a few of the finest heads will be selected for re-erection.

▭

Works published by H.M. Stationery Office always carry with them an atmosphere of sound and solid solemnity. We have recently received announcement of a publication which should maintain this reputation to the full. It is a System of Bacteriology in relation to medicine, compiled by various authors, to be produced under the auspices of the Medical Research Council and to fill nine large volumes. This work, which is accurately described by its publisher as "monumental," is the work of nearly 100 British bacteriologists, each of whom treats the subject in which he has taken particular interest. Praiseworthy as this tremendous piece of work undoubtedly is, we feel that the Earl of Balfour is right when he says in his general preface that it is "a gift from specialists to specialists."

We cannot foresee the volumes on every practitioners' bookshelf—or for that matter, even in the possession of every bacteriologist—but no library will be complete without them.

We are asked to announce that Volume III, the first volume to be issued, will probably appear during the second week in August.

▭

The following resident house appointments have been made :—

House-Physicians—

To Dr. Poulton—Mr. E. H. Sears.

To Dr. Ryle—Mr. J. C. Heather.

House-Surgeons—

To Mr. Fagge—Mr. W. D. G. Jones.

To Mr. Turner—Mr. T. T. Stamm.

Out-patient Officers—

Mr. J. B. Blaikley.

Mr. E. E. Camps.

Mr. R. Glanvill.

Mr. N. E. Pitt.

Assistant House-Surgeons—

To Mr. Hughes—Mr. R. J. C. O'Donoghue.

To Mr. Davies-Colley—Mr. D. B. Smallshaw.

To Mr. Bromley—Mr. S. A. Scorer.

To Mr. Slesinger—Mr. W C. M. Bigby.

To. Mr. Ogilvie—Mr. S. M. Cohen.

Obstetric Resident—

To Messrs. McNair and Cook—Mr. E. G. Booker.

House-Surgeon in the Ear, Nose and Throat Dept.—

To Mr. Layton—Mr. J. R. Robinson.

House-Surgeon in Genito-Urinary and Orthopædic Depts.—

Mr. E. R. R. Mellon.

▭

Notices

The Revelstoke Library

The sum of £2,000 has been raised to build a Library in connection with the Nursing School, to be known as "The Revelstoke Library," as a memorial to the late Lord Revelstoke, who was a constant benefactor to the Nursing Staff.

The money has been collected by means of a private subscription among the Governors of the Hospital and other friends of Lord Revelstoke, in order that no cost might fall on the general funds of the Hospital.

Over 40 Governors and friends have subscribed to this memorial and the Nurses' League has made a contribution of £50.

As the necessary funds for the building of the Library have now been obtained, the Subscription List has been closed, and the work will be put in hand at the earliest opportunity.

Any subscriptions that may be received in future from the Nursing Staff or their friends will be devoted to the purchase of additional equipment or books.

H. L. E.

Medical School

CHARLES OLDHAM PRIZE IN OPHTHALMOLOGY.

The following awards have been made :—

Mr. N. E. Pitt has been awarded the Charles Oldham Prize in Ophthalmology for 1928.

Mr. C. F. Cosin has been awarded the Charles Oldham Prize in Ophthalmology for 1929.

J.J.C.

Headache

A Clinical Lecture delivered at Guy's Hospital, on July 8th, 1929, by C. P. Symonds, M.D.

GENTLEMEN,—Headache is a very common symptom, and one which may be very difficult of interpretation. Perhaps this is one of the reasons why it is so interesting. Very few of the patients coming to us with a complaint of headache present any obvious physical signs, and we are dependent, as a rule, upon an accurate history for a clue to the diagnosis or to the special investigations which may reveal it.

Considering the problem of headache from an anatomical point of view—which is probably the safest method of classification—we have, first, the extra-cranial tissues (tissues of the scalp) where lesions may give rise to a complaint of headache. The extra-cranial tissues are supplied by two sets of nerves; the trigeminal as to the front part, and the great occipital and small occipital coming from the second and third cervical, supplying the posterior half of the head and back of the neck. Then we have the cranium, whose nerve supply comes from the same source. Within the cranium are the meninges, which are extremely sensitive, and are supplied by recurrent twigs from the trigeminal, together with a twig also from the vagus to the meninges of the posterior fossa. And within the meninges, again, is cerebral substance. The cerebral substance, as far as we know, is insensitive to ordinary stimuli. In operations on the brain performed under local anæsthesia, the cerebral substance can be incised without the patients being aware of it at all. Yet there is some evidence, as I shall mention later on, that pain may arise in the brain.

In addition, there are lodged within the head certain organs: the eyes, ears, nose and nasal cavities, and teeth, which are important in relation to this problem of headache. Their sensory nerve supply comes from the trigeminal.

We may, then, consider headache under (1) pain arising in the extra-cranial tissues, (2) pain arising in the cranium, (3) pain arising in the meninges, (4) pain arising in the brain, (5) pain arising in eyes, nose, ears, or teeth.

Taking the last category first, as being comparatively simple, pain, in any one of these organs I have mentioned is generally felt locally, but if the lesion is a severe one, the pain may spread, first to the division of the trigeminal nerve which supplies the organ affected, but tending to spread, if the pain is very severe and continuous, beyond that to the whole distribution of the trigeminal nerve. And if the stimulus is intense and prolonged it may apparently set up irritation in the central parts of the nervous system, so that the pain may spread to neighbouring nerve fibres. For instance, in the case of an inflamed tooth in the lower jaw the pain is at first felt locally, but may then spread to the whole of the mandibular division, subsequently to the whole side of the face, and then, by central spread, to the back of the neck, the shoulder and even down the arm as far as the elbow. In the case of a mild and chronic lesion in any one of these organs, the referred or reflected pain may overshadow the local pain, or it may be the only outstanding feature. And so every now and again a patient will come complaining of a headache which is, in fact, a pain referred from disease of one of these organs supplied by the trigeminal. I have never yet encountered headache in a patient who is suffering simply from a diseased tooth in the lower jaw; but occasionally one comes across that complaint referred from a diseased tooth in the upper jaw. There was, for instance, a man whom I saw two years ago with a complaint of severe pain, which he referred to the back of his right eye. It was a very severe neuralgic pain, and interfered sometimes with his work. He was a healthy man, aged 37, and he was a doctor. He had sought all possible means of relief; he had had his eye examined and his teeth X-rayed, but nothing had been discovered, and he just went on having these headaches, taking an occasional dose of aspirin and hoping for the best. In course of time his last upper molar tooth on the right side began to give him pain, and he found it was tender to touch. It was a "filled tooth." He went to the dentist, who removed the filling, and when the tooth was probed he immediately had a pang of this neuralgic headache. The carious material was removed, and he had no further attacks of headache. This, was an instance, in a reliable witness, of pain complained of in the head when the cause was in a concealed inflammation in an upper third molar. But I think cases of that sort are uncommon.

Pain arising in the ear is usually referred locally, and is not in my experience an important cause of headache, although in severe otitis media the pain may spread to one side of the head.

Headache referred from the eyes is naturally commoner, because the eyes are supplied from the ophthalmic division of the 5th, and pain, therefore, readily spreads to the brow. A striking example of headache due to eye disease and an important example, is glaucoma. And eye-strain, that is to say, working the eyes under unfavourable con-

ditions—close work in a bad light, and hard use of the eyes in the presence of errors of refraction or of muscle-balance—may also lead to frontal headache. This is often complained of when the patient wakes up in the morning after having used his eyes hardly on the previous night.

Coming to the nose, pain arising in nasal cavities is an important cause of headache, though, I think, a comparatively rare one. It is most often met with when there is retention of secretion in one of the accessory sinuses, particularly the frontal sinus. The pain in such a condition is usually complained of as headache. It is referred to the brow. It is particularly apt to come on after a cold, therefore, naturally during the Winter months. And it has some rather special clinical features. The pain is not continuous, but comes on in attacks, and these attacks are particularly apt to be at their worst in the morning, subsiding later in the day. The patient with occasional blockage of the outflow from the frontal sinus may go on for years, with occasional bouts of headache of this kind. For instance, I was recently consulted by a man, aged 40, who had suffered for eight years from attacks of left-sided frontal headache. When one began to ask him appropriate questions it seemed that the pain was at its worst about 9 o'clock in the morning; it eased off towards midday, and then he would be free from it until the next day, when it would come on again at about the same time. That would happen for several days, and would then wear itself off, and he might have an interval of months, or a year even, without a further attack. The attacks would more frequently come on after a cold during the Winter months. There was no complaint of discharge from the nose, and the colds were of ordinary severity. There were no physical signs in this case, no local tenderness over the brow. But the X-rays showed an opaque frontal sinus on that side; and the nose, ear and throat expert reported that there was a deflected septum, the turbinate on that side obstructing the outflow from the fronto-nasal duct. There is no doubt an operation on the nose will cure the headaches.

Retention in the ethmoidal or sphenoidal sinuses is apt to lead to headache of a similar type, but referred deeply to the centre of the head, and especially to the occiput.

Returning now to our anatomical method of approach, and starting from the beginning, pain arising in the extra-cranial tissues is not particularly common. It is usually due to fibrositis of the scalp, or to an infective arthritis of the upper cervical spine, with involvement of the second cervical nerve. This latter is a variety of headache whose cause is often overlooked. The patients complain of it, naturally, as headache, because the pain is referred to the distribution of the second cervical nerve, up the back of the head as far as the vertex behind the ear. It is due to implication of the second cervical root as it emerges from the spine, and, therefore, it is associated with other evidences of cervical arthritis, an unwillingness to move the head and stiffness of the neck, and the clue to the pathology may often be found in the presence of infected joints elsewhere.

Fibrositis of the scalp may be difficult to distinguish from the occipital pain which is secondary to arthritis. It is usually of a shooting, darting character, and the patient, if questioned, will say that it is not deep headache, but superficial. And if you examine him during the attack of pain, you will find tender points, and you may be able to distinguish tender nodules in the subcutaneous tissues. It is a form of headache which is due to infective or toxic causes, which have to be dealt with. In the way of local treatment, heat and massage are extremely valuable. This is an important variety to have in mind, though I think it is comparatively uncommon.

Headache from pain arising in the cranium is, I think, a rarity. The only case I call to mind of really severe headache from disease of the cranium was in a woman who was admitted to Mary Ward five or six years ago, complaining of continuous excruciating headache and severe pains in other parts of the body. She was excitable and had been considered to be hysterical. She had no physical signs, but her skull was tender to pressure. The X-rays showed periostitis of her cranium and of several of her long bones, and she was undoubtedly syphilitic. She had a strongly positive Wassermann, and all her pains were improved on giving anti-syphilitic treatment. Syphilitic periostitis seems to be now a rare condition. There may be milder degrees of headache in Paget's disease, another disease of bone which often affects the cranium.

Pain arising in the meninges is probably the commonest variety of headache due to organic causes. It may be caused either by inflammation or by stretching of the meninges.

It may be best to take the mechanism of stretching first. The dura mater is extremely sensitive to increased pressure within its limits. The most important cause, perhaps, of increased intradural pressure is cerebral tumour. But cerebral tumour causes headache only through stretching of the meninges, and one may conveniently take the whole group of headaches due to the same mechanism together and speak of them as hyper-tension headaches. The headache

of increased intracranial pressure is usually spoken of as throbbing or bursting; and if the increased pressure is generalised, the headache is generalised or fronto-occipital. If the increased pressure is localised, as in the case of a superficial tumour in one compartment of the dura, or in the case of localised cerebral contusion, the pain is referred to that part. And tumours or other causes of increased pressure below the tentorium give rise to pain in the back of the head and in the back of the neck.

The headache of increased intracranial pressure, from whatever cause, is hardly ever continuous. This is a fact which is difficult of explanation, but you can prove it for yourselves by clinical observation. A man giving gross evidence of increased pressure from tumour will have headache in bouts, which are apt to come on early in the morning, and then wear off, so that he will probably be free for the rest of the day, or there may be even an interval of a day or two before they come on again.

The other features common to all hypertension headaches are that they are increased by anything which tends to elevate the intracranial pressure, such as coughing, stooping, sneezing, or severe mental or physical exertion. They are usually somewhat increased when the patient lies down, and relieved by sitting up, as one would expect, considering the effect of gravity on the intracranial pressure. In the milder cases the character of the headache may be not nearly so definite. The complaint may be merely of a sense of fulness in the head. But the headache of increased intracranial pressure is usually described in terms of pain, and, as I have said, is generally intermittent rather than continuous.

When we come to consider the causes of hypertension headaches, we find that the most important is one we have already considered; cerebral tumour. This will include gumma, and tuberculoma, and internal hydrocephalus. These are gross causes of increased intracranial pressure.

As milder examples of hypertension headache one may mention the headaches of cerebral contusion, in which there is a lesser degree of increased intracranial pressure.

There is a still milder variety, due to circulatory changes. For instance, one meets with headache of this type in cases of arterial hypertension. How this comes about we do not know. It is clear that the increased blood pressure cannot be directly transmitted to the intracranial contents. Probably the increased arterial pressure leads to increased secretion of cerebro-spinal fluid, and thus there is increased intracranial pressure. That the pressure is increased can be proved by the manometer.

And we may meet with hypertension headaches from obstruction to the venous outflow from the head. It is a very rare cause, but worth considering. We had a man in hospital two years ago with obstruction of the superior vena cava from syphilitic mediastinitis. His leading symptom was headache and the cerebro-spinal fluid pressure was 310 m.m. H_2O as compared with the normal 150, and his headache was very much relieved by venesection.

Migraine is another and very important cause of hypertension headaches.

Migraine is a condition characterised by recurrent paroxysmal attacks of headache without the development of any signs of organic disease. The headache is often preceded by a visual or sensory disturbance, constituting the warning or aura of the attack; and these visual and sensory disturbances are, in themselves, highly characteristic. You probably are all familiar with the picture in the text-books of the "fortification spectrum" in migraine. That, however, in my experience, is comparatively rare. The common complaint is of a vague flashing or dimness of vision in one or other half of the visual field, lasting ten or twenty minutes, and followed by headache. Apart from the visual phenomena there may be sensory disturbances, consisting of a feeling of numbness and tingling in lips or tongue, usually on both sides, travelling down, often, to one or other hand, and if the right hand is affected, often there is some aphasia. Sensory disturbances may occur independently, or may co-exist with visual distress. The whole of this subjective disturbance commonly lasts 10 to 30 minutes, and is followed by headache, and the headache is a typical bursting, throbbing, splitting kind, such as one meets with in known instances of increased intracranial pressure. If it is very severe it may be associated with vomiting, and also with slowing of the pulse. So we have a good deal of right to assume, from our clinical analogy, that it is due to increased intracranial pressure, and the probability is that the attacks of migraine are due to localised cerebral œdema. Into the causation of this I have not now time to enter, but it is a variety of headache which it is most important to recognise. In rare instances the sensory disturbances which I have described in migraine may go on to motor disturbance, and there may be a transient hemiparesis, with alteration of reflexes in an attack of migraine, which may thus be an alarming affair.

There is another variety of headaches which should be mentioned in considering those due to stretching of the meninges, and that is the lumbar puncture headache. Lumbar puncture headache has definite characteristics of its own, and I mention this form to stimulate your thought and enquiry as to the mechanism of the production of headaches in general. A patient with headache

after lumbar puncture will complain of a feeling of intense pressure on the top of the head, or a feeling as if the top of the head was caving in, also a stiffness and aching in the neck. This headache is apt to be provoked especially when the patient sits or stands, and is relieved when he is lying down. In this respect it is the antithesis of the hypertension headache, and one may reasonably suppose it is due to hypo-tension. Probably the explanation is that the brain, being deprived of its proper water-bed, when the patient sits up there is a dragging on the falx and at the tentorium, and so pain due to stretching of the meninges.

Coming to meningeal inflammation as a cause of headache this is partly, no doubt, due to increased intracranial pressure. The headache of acute meningitis is, pretty certainly, of this origin. In a case of tuberculous meningitis the patient may be in agony on account of the headache; if you do a lumbar puncture you find the cerebro-spinal fluid is under pressure, and if the pressure is reduced by withdrawal of fluid the patient's headache will go for the time being.

Chronic meningitis is chiefly due to syphilis, but may be caused by an extension of suppuration from the middle ear or a nasal sinus. The pain in such cases is, in some ways, like that of increased intracranial pressure, but it is more apt to have some local relationship. That is to say, pain due to chronic meningitis in the frontal area will be in the frontal area, and when the lesion is in the middle fossa there will be pain from the eyeball to the back of the head. Pain due to meningitis in the posterior fossa goes down the neck into the shoulder. But pain arising in any one of these situations, though at first local, tends to spread and affect the whole of that side of the head.

The headache one meets with in influenza and other acute infections or severe intoxications is probably also to be included in the category of those arising in the meninges, being due to congestion, either of the meninges, or of the cerebrum with increased intra-meningeal pressure. Typhoid fever and uræmia provide striking examples.

Let us now leave the meninges and consider the headaches due to pain arising in the brain. Here we are on rather debatable ground, as there is no physiological proof that the brain is sensitive. But we meet with a large group of patients in whom there is association of a particular type of headache with mental distress. And I think we have a right to assume that there is a relation in these cases between the mental stress or tension and the headache of which they complain. It is a headache which has somewhat characteristic features. In the first place, it is continuous, and is described, when the patient is pressed, in terms of discomfort rather than pain. It is not a throbbing or splitting or shooting sensation, but is usually described as a dull, heavy pressure on the top or the back of the head, and is of a peculiarly distressing character. It is associated with mental tension, with depression, or anxiety, or fear.

I have so far attempted to give an account of the main varieties of headache, together with their sites of origin, taking these in anatomical sequence, and, from what I have said, I hope that you will have formed for yourselves some idea of the line you should take in investigating a case of headache.

You should first obtain an accurate description of the pain, its character, site, times of occurrence and aggravating or relieving factors. From this you will probably obtain some pointer for further investigation. If the headache is of the hypertension variety you will enquire particularly for :—

(1) Any symptoms of cerebral disorder which may suggest a focal lesion, such as epileptic attacks, speech difficulty, weakness or numbness.

(2) A history of head injury—remembering that contusion headaches may follow a relatively slight injury without concussion, and that the headache may appear after a latent interval of several days.

(3) A history of venereal disease.

(4) A history of middle ear or sinus disease

and in examining the patient you will pay especial attention to—

(1) The optic discs.

(2) Evidence of any local lesion of the brain.

(3) The blood pressure.

In the way of special examinations you will have the W.R. done in the blood.

If the headaches are of a paroxysmal and recurrent type you will remember the possibility of migraine, and enquire for the occurrence of any " aura " and for a family history of this complaint.

Your general examination of the patient should reveal any important toxic or infective causes.

Pain of a superficial and shooting character should make you look for areas of tenderness in the scalp, and if it is in the posterior part of the head for cervical arthritis. A description of continuous pressure (often referred to by the patient as " agonising headache ") should lead to enquiry into the mental state and sleep.

In any obscure case remember the possibility of referred pain from the upper teeth, eyes or nasal sinuses.

There may be a good many cases in which you will not be able to arrive at any one of the diagnoses I have suggested. Our knowledge of the causation of headache is far from complete. But if you will approach the problem from the wide point of view, you will now and again discover a cause which will help you to a radical cure instead of symptomatic treatment.

By way of illustration I shall relate to you in brief the history of one or two patients whose sole complaint was of headache.

The first is that of a man, aged 46, whom I saw some years ago. He was sent to me with a year's history of severe left-sided headache. He described these as excruciating pains deeply situated in the whole left side of the head, and at their worst, radiating down into the neck and shoulder and as far as the left elbow. They were apt to attack him particularly at night, to come on at about 3 o'clock in the morning and keep him awake for the rest of the night. During a whole year he had scarcely been free. That, on the face of it, was the whole of his story. He had been carefully investigated and examined. Some carious teeth were found in the left upper jaw and had been removed, but still the headaches were no better. They were so severe that they could only be relieved by morphia.

Approaching the problem in the manner I have presented to you—and what I want to help you to do is not so much to follow my methods as to think out some method of your own—one asked him some leading questions. He admitted having had syphilis, but his blood Wassermann had been found negative and he had had anti-syphilitic treatment, which had not helped his headaches. The other important point was that six months before the headaches began he had had left-sided otitis media, though the discharge had ceased. Subsequently, while travelling on the continent he had had a curious illness, said to have been ptomaine poisoning. There had been intense giddiness, with vomiting. He was in bed four days, and during that time the least movement of the head led to vomiting. On further questioning he admitted to a buzzing noise in his left ear. There was a little discharge from this ear, and he was very deaf on this side.

These were the points in the story which led one to suspect what turned out to be the truth: that, as a result of the otitis media, there had been left a smouldering infection in the internal ear, which had spread to the meninges and given him an extra-dural abscess. This was revealed and drained at operation, but he unfortunately died of meningitis.

The next case is that of a man, aged 48, who came with a story of a year's headache, on and off. The original attack occurred when he was playing cricket, when he had to retire from the game and return to the pavilion because of severe headache. This was attributed to sunstroke. I mention this because I have seen many people whose headaches were put down to sunstroke, and I do not think sunstroke often occurs in this country. The cause is usually something else, and so it was in this case. He went on having intermittent headaches, not very severe, not enough to prevent his going to work—he held a business position. They were rather of the increased intracranial pressure type. He described them as being worse on stooping and on exertion. There was nothing else in his story until we began to enquire for other evidences of cerebral disease. I asked him whether he had had any attacks of giddiness or dizziness, and we immediately got on to the fact that during the past two or three months he had had attacks in which he "lost himself" for a second, and these little attacks were preceded on each occasion by a curious and unpleasant smell. This in itself was a clue of first-rate importance, because they enabled one to say there was disease in one or other temporal lobe; they were typical "uncinate attacks," a variety of minor epilepsy, due to a lesion in the anterior end of the temporal lobe. Physical examination was negative. The W.R., however, was strongly positive in the blood. The C.S.F. showed a pressure of 250 mm. as compared with normal of 150 mm., but gave a negative W.R. An antero-posterior X-ray picture of the skull showed what is common enough, a calcified pineal body. It was, however, displaced half-an-inch to the right of the middle line. The diagnosis arrived at was a gumma of the left temporal lobe. The headaches cleared up completely under anti-syphilitic treatment.

My last case will serve to emphasise the importance of a general examination and a wide perspective in investigating the cause of headaches. A woman of 63, twelve days before I saw her, had complained of headache and malaise, vomited once or twice and was found to have some fever. She had since run an irregular temperature which had not been charted. Her complaint throughout had been of intense, agonising headache. Latterly, she had developed a little cough which was troublesome only in so far as it aggravated the headache. This was so severe that it prevented her sleeping. As her doctor failed to relieve it she dismissed him and called in another. He gave her morphia to ease her pain and asked me to see her. At the moment of my examination her temperature was normal. She appeared worn out with pain and somewhat lethargic. Her pulse was 84 and markedly dicrotic. She had the signs of a little bronchitis. The spleen was enlarged and moderately soft. A group of recent "rose" spots was present on her abdomen. She was a case of paratyphoid and ultimately recovered.

I have notes of two other cases of typhoid or paratyphoid which I have been asked to see on account of the leading complaint of intense headache, the association of fever and lethargy having led in both to the suspicion of encephalitis lethargica.

Interviews with the Really Great

II.—MR. LOUIS BROWN

WALKING down the stairs of Hunt's House, I came upon Mr. Brown from above. His well-groomed head shone resplendently in the morning sunlight and his spirits seemed as bright as his coiffure. As I approached him he was making polite conversation to a nurse, who was obviously impressed with his polished air of extreme gentility and the stream of well-turned phrases that came elegantly from his lips. For Mr. Brown is justly famous for his perfect manners, which are almost ladylike in their gentle quality. When younger he was constantly referred to by ladies of fashion as "That nice boy." When the nurse had scuttled away downstairs I approached Mr. Brown and asked him whether he would grant me the privilege of an interview. Mr. Brown blushed deeply and murmured, "Oh, I *say*," with that subtle intonation which he, and he only, can apply to so simple an utterance. "If you will forgive my touching on so delicate a topic, Mr. Brown, I have long been consumed with curiosity as to how you amassed your immense fortune."

Mr. Brown, looking shyer than ever, replied, "Dear, dear me, my fortune is a very small one indeed. I can't think why you should be interested in that. However, if it amuses you, it would give me the greatest pleasure to tell you briefly how I gathered in such as I have of this world's goods."

Taking a deep breath and offering me an acid drop from a paper bag which he pulled out of his pocket, Mr. Brown began: "When quite small I collected cigarette cards and these I sold to my friends who wanted them for their collections. Some would pay as much as twopence for a card they particularly wanted to complete a set. When a little older I turned my mind to roller skates. This sport was very popular some years ago and all my friends indulged in it. But few of them used more than one skate, so I would buy pairs of skates and sell them singly. I made a little money that way. With the money I had made from these ventures I bought a bicycle and rode it on errands into the neighbouring town—for a small charge. When I took up medicine, I naturally, realised that the chances of making money were extremely small. But I had reckoned without the craze for dirt-track racing, a dangerous sport which requires the constant presence of a doctor. So I dropped into that. However, I rarely make more than forty or fifty pounds in a week even now," Mr. Brown concluded modestly.

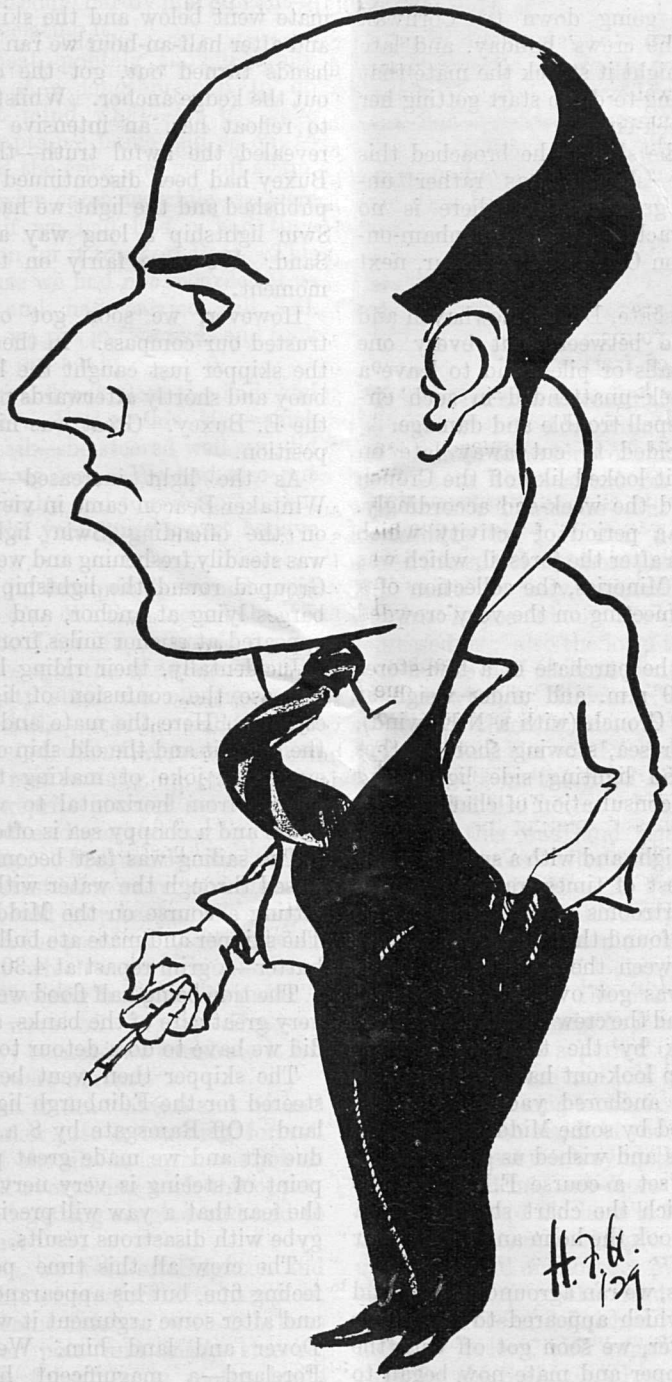
I thanked him fervently for his interesting information and we walked downstairs together. Sitting on a seat in the Park, I turned to my distinguished companion again. "You're a physician, are you not, Mr. Brown?" I asked. "Oh, no, just a doctor," he replied. "I don't hold with all this new-fangled differentiation between surgeons and physicians. After all, the whole idea is to get your patient well enough to go out of hospital as soon as possible—and I know how to do that. I strongly object to these elaborate methods of diagnosis by specially constructed instruments. I get on very well with two eyes and one hand. And, as for treatment, I find most of my patients get well with a rest in bed and a good talking-to. If they don't, why, they soon discharge themselves. Above all I won't stand nonsense."

Mr. Brown became vehement here and ate another acid drop. "If there is any trouble from a patient, out he goes, neck and crop. By nature I'm extremely soft-hearted, but I steel myself to resist my natural inclinations when a patient becomes obstreperous. While my heart bleeds for the poor creature, outwardly I am relentless. People say I am hard-hearted and callous. But that is not true." There was a sob in Mr. Brown's voice. "I am the most gentle of creatures and it hurts me more than I can say to be even firm in my dealings with difficult people."

Mr. Brown stopped, obviously affected by his confession. I hastily changed the subject. "What are your favourite recreations, Mr. Brown?" I enquired. "I'm awfully fond of aquatics," he answered, brightening. "I think it is such a beautiful sport. I love the sound of bodies rippling through the water and the feel of the caressing fluid on the skin. It fills me with æsthetic joy to dive into limpid streams, or float lazily on my back with the blue sky above and the river-bed below." "And Rugby football, Mr. Brown?" I queried. "I find that game a little rough," he answered, "though I do play it occasionally. It is a noble game. But really my favourite form of relaxation is dancing. Never am I happier than when tripping a gay gavotte or treading a stately minuet. The modern dance is harsh, but I am an enthusiastic follower of the older terpsichorean forms." "Yes, yes, indeed," I murmured, hastily glancing at my watch, "I'm afraid I must go now, good-bye, Mr. Brown, and thank you very much for telling me so much."

"Oh, I *say*" said Mr. Brown.

BROWSER.



"LOUIS"

A Lazy Week End

ALBATROSS is going down to Cornwall this year for the crews' holiday, and late one Thursday night it struck the mate that it would be a keen thing to do to start getting her round the coast at week-ends.

Hurriedly finding the skipper he broached this proposition, but the skipper was rather unenthusiastic on the grounds that there is no suitable harbour for yachts between Burnham-on-Crouch and Bosham on Chichester Harbour, next door to Portsmouth.

It is true that Ramsgate, Dover, Newhaven and Littlehamption all lie between, but every one entails tying up to walls or piles, and to leave a light yacht for a week unattended in such circumstances is apt to spell trouble and damage.

However, they decided to cut away late on Friday and see what it looked like off the Crouch Estuary, and to spend the week-end accordingly.

Thereupon ensued a period of activity which included taxi journeys after the foresail, which was being repaired in the Minories, the collection of a foremast-hand and a meeting on the very crowded 6.20 to Fambridge.

A swift meal and the purchase of a few stores saw us aboard by 10 p.m. and under weigh at 10.30. All down the Crouch (with a N.E. wind), the crew prepared for sea, stowing shore clothes and stores, filling and lighting side lights and binnacle, and frantic consultation of charts of the Thames Estuary.

Navigation by bad light and with a small box top as table is, at the best of times, rather different from that in the chartrooms of big ships, but to our consternation we found that there was neither a pencil nor pen between the three of us. This was awkward, but was got over by the skipper calling out bearings and the crew memorizing them.

It was pitch dark by the time we reached Burnham and a sharp look-out had to be kept to avoid running down anchored yachts. Our silhouette was recognised by some Middlesex men on a yacht who hailed us and wished us good luck.

At Shore-ends we set a course E.N.E. on the W. Buxey buoy, which the chart showed had a light on it, the mate took the helm and the skipper and crew turned in.

After a few minutes, we ran aground on the mud of the north shore which appeared to be a long distance off. However, we soon got off with the rising tide. The skipper and mate now began to get worried because no lighted buoy could be seen on the bearing we were sailing, so finally, we decided that either the bearing or the compass was wrong, and we altered course on what appeared like a light on a buoy at no great distance. The mate went below and the skipper took the helm, and after half-an-hour we ran aground again. All hands turned out, got the canvas off and laid out the kedge anchor. Whilst waiting for the tide to refloat her, an intensive study of the chart revealed the awful truth—the light on the W. Buxey had been discontinued since the chart was published and the light we had steered on was the Swin lightship a long way across the Foulness Sand. We were fairly on the Foulness at the moment.

However, we soon got off, and thenceforth trusted our compass. In the grey of early dawn, the skipper just caught the loom of a chequered buoy and shortly afterwards picked up the light on the E. Buxey. Great was his relief at fixing the position.

As the light increased—about 4 a.m.—the Whitaker Beacon came in view and we bore south on the offending Swin lightship. The wind was steadily freshening and we made excellent way. Grouped round the lightship were three Thames barges lying at anchor, and a curious sight they appeared at anchor miles from land.

Incidentally, their riding lights had helped to increase the confusion of lights which dot the estuary. Here the mate and crew came out into the cockpit and the old ship once more played the evergreen joke of making the crew sick. The change from horizontal to vertical in the early hours and a choppy sea is often fatal.

The sailing was fast becoming exciting and we hissed through the water with the lee deck awash setting a course on the Middle Barrow lightship. The skipper and mate ate bully beef and bread and butter—a grim repast at 4.30 a.m.

The tide being half flood we did not have to take very great care of the banks, and in only one place did we have to do a detour to avoid one.

The skipper then went below whilst the mate steered for the Edinburgh light and the N. Foreland. Off Ramsgate by 8 a.m. the wind became due aft and we made great progress, though this point of steeing is very nerve wracking owing to the fear that a yaw will precipitate an involuntary gybe with disastrous results.

The crew all this time persisted that he was feeling fine, but his appearance greatly belied him, and after some argument it was decided to stop at Dover and land him. We passed the South Foreland—a magnificent headland—and made Dover by about midday. The sea in the harbour was distinctly choppy and we rolled and pitched whilst lowering the sails. Here the mate, whilst muzzling the jib which was flogging about as it was lowered, lost his balance and shot into the

ditch, carrying the jib with him. It was a most inspiring spectacle and justly earned the applause we gave it. In fact, we could hardly pull him out—we were so busy appreciating it.

Well, we got a meal, politely though firmly repulsed the efforts of a longshoreman to do something—he didn't mind what—for us, gave our name, tonnage, captain's name and so on, to the authorities, landed the crew and got off again.

A large sailing trawler came in while we were there and asked us if we had had a bad time outside as they had run for it from off Deal. This rather shook us because we had not regarded it as blowing very hard and had carried full sail. Largely owing to this, we put in two reefs and took in the jib before going out again.

Once outside, things did not seem too bad, and we set our spinnaker. Under this rig—which amounts to a square sail—she steered well and did not yaw in the following seas. We had also put two painters on the dinghy and towed from either quarter which made the yachtsman's part behave almost rationally.

The skipper turned in, but quickly turned again out to shake out the reefs. We then logged about 7 knots—an amazing speed for *Albatross*. At 6 p.m. we were off Dungeness and the wind against tide kicked up a very nasty short sea off the point. The mate, with great skill, steered her well through it, but he was exhausted with the mere physical effort of holding her wild rushing and plungings. Several times the bowsprite plunged into the sea as a comber overtook us and went hissing by. The dinghy behaved wildly. Frequently she nearly came aboard on the crest of a wave, and then as the wave passed she would drop back until brought up with a fearful jar on the painters. We expected her to break loose, in which case, it would have been very difficult recovering her, but she didn't.

At midnight we were off Beachy Head—a regular Cape Flyaway, because we could see it for four hours before we were abreast.

The wind now began to draw ahead and we had to change the spinnaker into a reaching foresail and get out and hoist the jib—a loathsome job as it was pitch dark and everything took the opportunity of jambing and getting tangled and had to be sorted by feel alone.

By dawn of Sunday we were off Brighton and the wind was very light. Later, off Littlehampton, the sea suddenly became infested with the lines and floats of lobster pots and made steering anxious work. Some fishermen in motor boats were inclined to be huffy with us for daring to sail on their bit of sea.

A baking day now commenced, although only 8 a.m. and we dragged the internal economy of the boat out and spread it to the sun.

"Albatross"

It soon became increasingly obvious that unless the wind freshened we were going to be stung and not get in in time for work on Monday. We were tempted to alter course on Littlehampton—the yachtsman's nightmare—but decided to hold on. By midday we were near Selsey Bill and determined to essay the inshore passage or Looe Channel. The mate vaguely remembered something by Hillaire Belloc about the Looe which unduly depressed us; also the local toughs at Bosham the year before had impressed on us the necessity of local knowledge. However, we found no difficulty in getting through, though it would have been awkward had the wind failed completely, because the tide sets on the flood across a rare packet of rocks called the Mixon. I believe that in Norman times all this was land right out to the Owers lightship, several miles off shore and certainly the names of the shoals—The Park, The Street, etc.—would seem to bear this out.

The afternoon was pleasantly spent in cursing the lack of wind and looking at the clock because we well knew that the ebb from Chichester Harbour would quite snag us if we found it against us.

However, after a period of total becalming, we picked up a breeze and just sneaked in in the very nick of time, taking a short cut, with the aid of the lead, across the sands of the bar.

We then beat our way up the channel to Bosham, but the wind had one more scurvy trick to play. Within sight of Bosham it failed completely, and after some heartbreaking work on the sweeps we gave it up and anchored. We got a meal and then slept the sleep of the dead till 4.30 on Monday, when we rose and finished the trip with the early morning breeze, and caught a train to town in time for the daily round and common, not to say vulgar, task.

As from far away comes a voice of one of my friends saying, "I should like to join the Sailing Club, but I must take *exercise* at the week-ends."

G. N. W.

Song of the A.H.S.

(Air—"Here's to the maiden of bashful fifteen.")

Ambulance! Way! Humanity's calling,
Madly the side streets we wind-o;
On a banana peel gracefully falling
A fat woman's bruised her *coccyx-and-the-soft-parts immediately-adjacent*-O.

Hup to the 'orspital, deary oh dear,
Six plicemen and all are so kind, Sir,
Don't she look bad, she be dying I fear,
Oh, strewth, but she's bruised her *coccyx-and-soft-parts-immediately-adjacent*-Sir.

Maze Pond at sixty—clangety clang,
The Surgery, brakes hard a-grind now,
Open the doors, drop the steps with a bang,
A gross woman's bruised her *coccyx-and-the-soft-parts-immediately-adjacent*-now.

P'licemen and relatives hurriedly tumble,
The injured in Fourth Room to mind-o,
Wake up the A.H.S.—who's he to grumble?
If she likes she shall bruise her *coccyx-and-the-soft-parts-immediately-adjacent-O.*

Wakened by Mayhew "Oh, sir, there's a beauty,"
Not a trace of a lesion can find there,
What do we care—we have all done our duty.
She's welcome to bruise her *coccyx-and-soft-parts-immediately-adjacent*-there.

Refrain—
Get out of bed. Why ain't it her head,
Worth nothing alive, but three guineas if dead.

Nurses' Tennis

ON Monday, July 29th, the final round of the Nursing Times Lawn Tennis Challenge Cup Competition was played off at St. Marylebone Hospital. The finalists were the London Hospital and Guy's. Both teams were well matched, and the London Hospital first couple only beat our first couple after well-fought games. In the second match the Guy's pair won their match in two sets and the total aggregate of games between the two couples of Guy's amounted to seven more than those of the London.

The Cup was presented by the Hon. Sir Arthur Stanley, C.B.E., who also presented personal souvenirs to the two teams.

Among those present were Lady Bonsor, Dame Sarah Swift, Dame Maud McCarthy, Miss Hogg, Miss Monk, Matron of the London Hospital and Miss West, who represented Miss McManus who is in America.

We heartily congratulate Sister Johnson and the Team on returning the Cup to Guy's after an absence of seven years. A delightful tea was served after the presentation, to a very large gathering of supporters of both sides. We are greatly indebted to the Matron, Miss Cockerell, of St. Marylebone, for the very pleasant afternoon she arranged for us.

The remainder of the evening was greatly enjoyed by the Teams owing to the generosity of Miss Monk, who kindly took them out to dinner and a Theatre.

Teams—

	London	*Guy's*
A.	Nurse Alexander	Nurse V. Johnson
	Nurse Ikin	Nurse Major Lucas

Sets: 6—3, 3—6, 6—8, to the London Hospital.

B.	Nurse K. Beach	Sister W. Johnson
	Nurse J. Beach	Nurse Payne

Sets: 6—1, 7—5, to Guy's.

Mr. A. H. Van Homrigh again very kindly carried out the duties of Umpire.

Sir Arthur Stanley Presents the Cup. *By Courtesy of the "Nursing Times."*

GUY'S TEAM *By Courtesy of the "Nursing Times."*

Left to Right—Sister W. Johnson. Nurse Major Lucas. Nurse V. Johnson. Nurse Payne.

Notes on some of the Causes of Failure in Crown and Bridge Work

A Clinical Lecture by Mr. F. J. Pearce

GENTLEMEN,—I think it will be admitted that crowns and also bridge work have come into ill-repute largely because of the number of failures that are seen in this class of work; indeed, by some it has come to be looked upon as bound to end in failure. Fortunately, many of us can produce cases which will stand any test as to healthiness and in which function has been restored, as no other method could accomplish as satisfactorily.

Speaking broadly, I consider there are two main reasons for failure; firstly, in a large number of cases, failure was bound to occur, they should never have been undertaken at all, they were not suitable cases for this class of work. Failure in many other cases is due to faulty technique, faulty in that sufficient care was not taken to avoid the many causes of failure, or even due to the manner in which the actual work was performed. I am one of those who consider that given favourable conditions and a skilful technician, there is no more reason to anticipate failure in this work than in any other of the many operations that we undertake on pulpless teeth. I must guard myself to that extent, because we all know that the majority of crowns have to be constructed on teeth from which the pulp has been removed, and we also know that the area at the apex of the root of a pulpless tooth and also its surrounding membrane—the periodontal membrane—appear more susceptible to the invasion of bacteria; indeed, some people may argue that the very fact that these operations have so often to be performed on pulpless teeth condemn them; well, this is a position which is quite open to argument, but if it is so, then no other operation should be performed on a tooth of this description, but many people do condemn a crown on a pulpless tooth whilst allowing some other form of restoration to have a chance of success; but I maintain that it is just as possible to construct a crown on these teeth without in any way making the chance of success less.

I would, however, make this distinction between a crown and a filling or inlay on a pulpless tooth, that where a crown has been constructed to meet the occluding teeth and the "bite" is not in a direct—or nearly direct—line with the root there is a very increased danger of apical or periodontal trouble, even though the construction of the crown has been carefully and skilfully performed.

This, I consider, may possibly be caused by the leverage, slight though it may be, that is brought to bear on the periodontal membrane and also in a less degree on the apical tissues.

If we consider some of the causes of failure in this class of work, we may learn how to avoid them and so assist in bringing about a better opinion of this class of work. For the sake of convenience, I will endeavour to divide them possibly into three groups:—

(*a*) Failures due to sepsis.

(*b*) Failures due to unsuitable conditions, either in the mouth, or in the roots that are to be crowned, or even an unfortunate choice of crown for the particular tooth.

(*c*) Failures due to an imperfect technique or an imperfect performance of that technique.

(*a*) Sepsis infection is, perhaps, the commonest cause of our having to remove crowns, or even the teeth on which they were placed. The causes are, of course, generally the same as give rise to failure in other operations on pulpless teeth, but not entirely. When I was taught crown and bridge work I was instructed always to remove the pulp as a preliminary, because the chance of so irritating it during the preparation of the root was so great that it would eventually die, and that, therefore, it was better to extirpate it then, and so ensure the treatment and filling of the canals under the best conditions; there is, undoubtedly, a certain amount of truth in this, but I consider that there are quite a large number of cases where the coning up of roots can be performed under local anæsthesia and that if care is taken not to heat up the tissues too much that the pulp can be retained alive.

The use of a local anæsthetic does not, of course, add to the chance of this. I only mention it because without its use it would be almost impossible to prepare a root properly: indeed, I am inclined to think that the use of local anæsthesia in this and also in the preparation of cavities for filling may rather tend to the work being done more rapidly, and, in doing so, the dental tissues may be heated and so lead to subsequent pulp trouble.

The exclusion of sepsis at the very start is the foundation of successful crown work and failure at this stage will, undoubtedly, lead to condemnation of the work at a later time, and has,

indeed, been the main cause of the bad opinion in which crown and bridge work is held.

In the case of all pulpless teeth, treat the canals and be quite sure that this part of the work is done as carefully as possible, and when a crown, say a molar crown, is to be constructed and no use is to be made of the canals to hold the crown, fill the canals and seal the pulp chamber before any preparation of the root is attempted, and if you are doubtful wait a while and have radiographs taken to see if you have achieved what you hoped to do.

In the case of crowns where the canal or canals are to be used for pins to attach the crown, fill the upper third of the canals before undertaking any other preparation, even before enlarging the canals. I feel confident that if this one precaution is taken it would eliminate a very large number of failures. I have made a very large number of examinations of roots I have had to extract that have had crowns fixed on them and have frequently found that apparently no endeavour had been made to attend to this point, and that no attempt had been made to seal the upper portion of this canal, that closure has been expected by the cement used to fix the crown.

I have, therefore, come to the conclusion that failure may have been due to this cause and that sepsis was possibly introduced during the preparation of the canal for the part. Where sepsis is present at the commencement it, of course, requires even greater care before deciding to cement a crown event to the extent of waiting several months and having radiographs taken to note any changes that may have taken place.

The next class includes failures due to unsuitable conditions or unsuitable crowns, there are so many that it will only be possible to mention a few of the more typical.

(*b*) Crowns or bridges inserted in unhealhy mouths or even on unhealthy roots which, if radiographs had been obtained, most operators would have been convinced that it was useless to proceed. The direction of the root or roots, where these are in a different axis to that of the proposed crown, an unnatural strain is placed on the periodontal membrane as well as on the peri-apical tissues, and, in my opinion, almost invariably leads to failure. I have so often observed this that I am personally quite convinced that any attempt to bring a tooth into better alignment by means of a crown is a mistake.

Again, divergent roots as abutments to a bridge may bring about failure from the same cause. With reference to unsuitable crowns this refers mainly to banded crowns, where the root is so far destroyed that it is not possible to get a band correctly and the further it is pressed on the less it fits. This accounts for a very large number of cases which present spaces between the collar and the root. The same causes operate in the case of crowns with a pin; attempts are often made to crown roots far below the gum, where it is practically impossible to ensure that there will not be a ledge. The only way that these can be made correctly is by the indirect method, by taking an impression under pressure and carefully building up to the outline of the root. There are quite a large number of cases where it is possible to construct a crown by this method when it would have been impossible to do so by the ordinary direct method in the mouth. The method employed is to take an impression under pressure and when a model has been made from this carefully trim down with a fine instrument and cut the model away so that the root will stand out above it, then harden the model and fit a band or cap to it.

(*c*) Failures due to an imperfect technique or lack of skill in adapting a crown or bridge again form rather a numerous class and may cause the gum to be misshapen and unhealthy, or they may be unsightly or even both at the same time. The causes which lead to failure in this category are so very numerous that one could almost write a course of lectures on them. The most common causes occur perhaps in banded crowns, chiefly in the preparation of the root. This is, perhaps, the most difficult and tedious operation in the whole of crown and bridge work and cannot be done hurriedly. Failure, however, to perform the work correctly is responsible for the greatest number of failures after sepsis. In the case of incisors and canines all that is needed to get a correct shape to the root is to remove all the enamel which will leave the root so shaped that it is possible to adapt a band which will fit accurately. The question of the amount of band to be placed under the gum varies to the amount of recession and the age of the patient from 1/16 to 1/32 of an inch; the band should really be constructed to replace the enamel that has been removed and conform to the outline that it had on the root, that is, that the band should be festooned between the teeth. Failure to accomplish this leads to injury to the dental papilla between the teeth and results in inflammation and recession and eventually permits of food packing. In most cases of banded crowns with porcelain facings the gum must be packed away to permit of the requisite preparation of the root. This can be done gradually by means of gutta percha, and if not undertaken too rapidly, the gum will remain healthy and will return to its original position. If, however, it is done too rapidly, inflammation

will be caused and will lead to recession of the gum and exposure of the band in a short period of time. If, however, it is undertaken without causing inflammation only a very slight recession will take place over a very long period of time, even if any recession takes place at all. During the period of packing the gum away, temporary crowns can be placed on the root. These do not take long to construct and are indeed a help, and by their aid the root can be prepared without much pain.

The shape of the crown is another important point, as if it is not contoured out correctly food will be allowed to lodge and in this way lead to failure. Other technical mistakes are space between the band and the facing due to not having made due allowance for the contraction of the solder. Failure to build out the soldered backing to the correct outline, thus allowing the opposing tooth to elongate. These are quite a few of the errors which can be made in technique, which I could lengthen almost indefinitely, but, perhaps, I have mentioned enough to impress on you that this particular branch of our work require a very particular knowledge and skill, and that failure to carry out many little points may lead to failure. If, however, these small points are carried out carefully, then I feel sure that a better opinion would be formed of a class of work that restores function in a way that few other operations can hope to achieve.

Hospital Information, etc.

Pass List.

SOCIETY OF APOTHECARIES

July, 1929

Surgery

C. E. P. Davies. C. Hortop.

Midwifery

T. G. Robinson.

UNIVERSITY OF LONDON

2ND EXAMINATION FOR MEDICAL DEGREES

PART I

July, 1929

H. T. Crondace.
L. R. L. Edwards.
R. C. Hill.
A. E. Jones.
M. J. Lindsey.
L. G. MacKenzie.
C. Mitchell.
T. S. Protheroe.
J. E. Rowlands.
B. W. Smith.
W. M. Van-Essen.
R. S. Vine.
E. C. Zorab.

1ST EXAMINATION FOR MEDICAL DEGREES

July, 1929

C. J. F. Blumenthal.
R. S. Ellis-Brown.
W. T. J. Fowler.
W. H. Hamilton.
C. F. Heys.
T. E. Howell.
N. M. Jacoby.
J. B. H. McArthur.
J. McArthur McArthur.
D. W. C. Northfield.
T. S. Protheroe.
La-Iad Sobiya.
L. N. Trethowan.
*S. H. Wass.
P. A. Wilkinson.
B. L. E. Wong.

*Awarded mark of distinction in Inorganic Chemistry.

Change of Address

G. G. Grainger, L.D.S., R.C.S., Wymering, Stoneygate Road, Leicester.

A. S. Gough, M.B.B.S., Lisdoonbarna, Cassiobury Drive, Watford, Herts. 'Phone: Watford 2518.

W. E. Robinson, 63, Grosvenor Street, W.1. 'Phone unchanged, Mayfair 3618.

Robert L. Peregrine, Remenham Park, Wraysbury, Bucks.

H. M. Brown, "Kelso," Darkes Lane, Potters Bar, Middlesex.

W. W. Payne, 28, Devonshire Place, W.1. 'Phone Mayfair 3647; and Biochemical Dept., Hospital for Sick Children, Great Ormond Street, W.C. 1. 'Phone: Museum 8700.

Papers by Guy's Men

C. Worster-Drought, M.D. and I. M. Allen, M.D. Dyspituitarism with Hydrocephalus, *Proc. Roy. Soc. Med.*, 1929, xxii, 1241, Sect. Anæsth. 83.

—— Carcinomatosis-Pigmentation, Canda Equina Lesion and (?) Bruce-Jones, Proteosuria, *Ibid.*, 1230 Clin. Sect., 76.

Births

REYNOLDS—On July 18th, 1929, at Aldershot, to Joan wife of Major W. L. E. Reynolds, M.C., R.A.M.C.—a daughter.

SPENCER-PAYNE—On July 30th, 1929, at Hempsted Lodge, Woodside Park, N.12, to Ivy Sybil (nee Spencer-Green), wife of A. Ll. Spencer-Payne, M.R.C.S., L.R.C.P., L.D.S.—a daughter (Mavis Dawn)

Marriage

GOUGH—STOKER.—On June 3rd, 1929, at St. Clement Danes, by the Rev. W. Pennington-Bickford, M.A., and the Rev. Campbell T. Payne, Arkyl Staveley Gough, M.B., B.S., of Watford, eldest son of Mr. and Mrs. E. A. P. Gough, of Streatham, to Aileen Ellen Mary, only daughter of Dr. and Mrs. J. Morris Stoker, of Beddington, Surrey.

WORTH—PRICE.—On Saturday, July 27th, Harry Mullins Worth, M.R.C.S., L.R.C.P., L.D.S., 101, Harley Street, W.1, to Maud Price, of Durban.

SIMS—STROUD.—On July 25th at St. Andrew's Church, Plymouth, William Owen, the eldest son of the late Mr. Owen Harvey Sims and Mrs. Sims of Sydenham, Plymstock, to Sheila Margaret Stroud, youngest daughter of Mr. and Mrs. E. J. Stroud, of Russelmere, Hartley, Devon.

EDS. {O. P. / E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

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PASSIM

THE more popular newspapers have evidently decided to do something about the human inside. Their "health page," which should, of course, be called the "ill-health page," has become a regular feature, and with our breakfast egg we can now consume column upon column of gloomy prognostication by "specialist" or "physician" chiefly as to the dreadful results if we fail to curb our errant appetites, give our lazy limbs more excercise, or adopt a whole round of precautions against the million ailments likely to beset us. There is, we may say, an increased interest in innards, and those who minister to the great god circulation are determined to ensure its satisfaction as completely as possible.

Now it would be very far from our intention to question the competence of those employed to administer such information and advice, or to suggest that in doing so they prejudice the interests of the medical profession as a whole. To the credit of these carefully anonymous people it must at least be said that their most frequent remark is that "in any case it would be better to see a doctor." Our criticism on reading their words of wisdom is rather that they commonly appear to assume a degree of biological and even physiological information on the part of the reader that we are sure he can never possess as a result of an ordinary education. Also that attention, other than spontaneous, is often drawn to symptoms which a large number of the potentially hypochondriacal will magnify out of all proportion when finally they seek advice, while stress on the necessity of consulting a so-called "specialist" will often endanger that personal relationship between patient and practitioner that is such a happy feature of our present system.

We are perfectly well aware that the medical profession has so far been much too cramped in its conception of the degree of initiation into the workings of disease that should be offered to the general public. It would, at first, seem likely that a reputable body such as the General Medical Council had far better take the lead in such matters, but quite recently a well meant edict on the subject of ultra-violet therapy singularly missed the mark and in spite of its august origin failed to gain either public or professional sympathy. A more promising path appears to be an extension of general scientific education to include biological subjects. When this has been achieved, attention might be drawn quite safely to "That Body of Yours," for by that time there will at least be *mens sana* if not *corpore sano* to contain it.

It has often been maintained that medicine can never become a penny in the slot affair. We are equally certain that it should never be allowed to become an affair of the penny press.

▭

WE have been asked to announce that the Thirteenth Norman Kerr Memorial Lecture will be delivered on Tuesday, October 8th, 1929, at 4.0 p.m., at the B.M.A. House, by Sir Josiah Stamp, G.B.E., LL.D., D.Sc., who has chosen as his subject "Alcohol as an Economic Factor."

Personally, we have never considered alcohol in this light, and we would remind others in the same position that they will be made welcome merely by presentation of a visiting card.

▭

THE Residents have "gone off" again. This time the act occasioned a most moderate exit, including a—we are told—sober dinner at the

Bridge House followed by a relatively well-behaved "musical evening" in the Residents' Room. We are given to understand that the reason for the comparative sobriety was the ill-health of the Residents' Fund rather than the ill-humour of the Residents themselves. We are confident that this lamentable display of decorum is unlikely to occur again.

For the three months ending in November, the Residents have elected Mr. E. T. Conybeare as President, and Mr. E. M. B. West as Vice-President.

EVER since the thing was perpetrated we have been endeavouring generously to find some point or virtue in the re-decoration of the College dining-room. We have failed. The farthest reaches of our imagination cannot conceive a single argument in favour of yellow walls and white window-frames, more particularly when the walls still show traces of the shadows cast by the heads of wild animals that formerly adorned them.

We wonder whether a committee—or even a sub-committee—might be appointed to advise those responsible for decorating the College in matters artistic, for, surely, it is of extreme importance that we should eat in pleasant surroundings and avoid anything in our sight that might upset our natural reflexes. The present decorative scheme finds the editorial appetite sadly on the wane.

WE are asked to announce that all vacancies for the Final Fellowship Course, which commences on Wednesday, September 4th, have now been allocated, and that no further applications can be considered.

Visit of American Dental Surgeons

THE meetings of the American Dental Society of Europe have been held in London recently and were attended by many distinguished American dentists. Among them were Dr. Arthur D. Black, whose lecture on "The Periodontal Tissues" is published in this issue, and Dr. George Winter of St. Louis, Missouri, who operated in the Dental Department at Guy's on July 25th and 29th. Another visitor was Dr. Boyd Gardiner, the head of the Dental Section of the Mayo Clinic in Rochester, Minnesota, who it is hoped will lecture in the hospital at the beginning of next term. So much hospitality has been shown to members of the Guy's staff visiting the United States and Canada that they are glad to have had the opportunity of welcoming visitors over here.

Dr. Arthur D. Black is the Dean of the North Western Dental School in Chicago and is the son of a world famous dentist, the late George Vardiman Black. Dr. Black is distinguished as a research worker and is a great organiser and teacher. The medical and dental schools of the North Western University are jointly housed in a sky-scraper building fifteen stories high, and it is intended to build on an adjoining block of land, medical, surgical and obstetric blocks of buildings for in-patients; so that ultimately the North Western University will possess a complete educational unit for medical and dental science on the shores of Lake Michigan and within a mile of the heart of the city. The dental building has a very admirable technical equipment which has in almost every detail been designed and planned by Dr. Black. Each student operates in a separate cubicle which is built shoulder high. By this means, each dental patient has the sense of being in a room by themselves while at the same time the demonstrator, who has charge of a class of fifteen students, has visual supervision of the whole group. The technical details of the equipment within these cubicles is greatly to be admired, each student possessing as modern and efficient an outfit as he could hope to have in the most up-to-date private practice. The dental department has its own laboratories for pathology and bacteriology, its own dissecting room, common room, library and all the amenities necessary to make life pleasant and efficient. Under Dr. Black's influence the North Western University are offering certain tuition and equipment scholarships to dental students of the University of London desiring to proceed for a year's graduate course at the North Western University, and it is to be hoped that some Guy's men will soon be found to avail themselves of this opportunity.

Dr. George B. Winter specialises in the removal of buried third molars and the operative technique which he showed during his two afternoons of operating at Guy's were very interesting. The basis of his method is a very careful radiographic study of the teeth and of the surrounding bony parts by pictures taken both in the horizontal and in the occlusal plane. By this means Dr. Winter is able to determine by which route the tooth may be most easily removed. He then employs spike-ended elevators, termed ossisectors to get through the bone in the direction of least resistance, ultimately removing the tooth by means of an elevator, using the thick external oblique line as a fulcrum. Dr. Winter strongly emphasised the fact that his operative technique was primarily concerned with the avoidance of trauma, and in this he appeared to be successful, for the patients upon whom he operated were remarkably free from any complications after the operation. On July 25th the operations were for Guy's students only, but on Monday, July 29th, they were open to all graduate practitioners, and the operations were attended by dental members of the staffs of all the London Hospitals and by eminent dentists from all over Europe. Among whom were the Marquis of Aguilar, of Madrid, President of the International Dental Federation; Dr. Charles Nord of the Hague, President of the National Dental Association of Holland, and many other distinguished men who were more than welcome as visitors to Guy's. F. N. D.

Cirrhosis of the Liver

A Clinical Lecture by Dr. L. J. Witts

"We ought to drink moderately, so that the stomacke be not hurt thereby, nor drunkennesse caused; for much abundance of drink at meales drowneth the meat eaten, and not only letteth convenient concoction in the stomacke, but also causeth it to pass faster than nature requireth, and therefore engendreth much flegme, and consequently rheumes, and crudenesse in the veins, debility, and slipperinesse of the stomacke, continuall flux, and many other inconveniences to the body, and members."—Thomas Coghan, "The Haven of Health," 1636.

GENTLEMEN,—When we speak of cirrhosis of the liver without any qualifying adjective, we refer to a special form of fibrosis and degeneration of the liver which usually results from the excessive consumption of alcohol. One of the best early descriptions of the appearance of the liver in this disease was written by Lænnec :—

"The liver, reduced to a third of its ordinary size, was buried, if I may use the term, in the region which it occupies and its external surface, slightly pursed and wrinkled, was of a yellowish-grey tint. On incision, it appeared entirely composed of a multitude of small round or ovoid grains, varying in size from that of a millet to that of a hemp seed. There was scarcely any interval between these grains, in which they could still be distinguished from remains of the proper tissue of the liver; they were easily separable from each other, of a fawn or red-yellow colour, inclining in some places to green, and of a humid, opaque tissue, flaccid rather than soft to the touch, so that on pressing the grains between the fingers a small part only crumbled away, the rest feeling in the hand like a piece of soft leather."

However, the word cirrhosis which is derived from the yellow (cirrhos) colour of the organ has now come to be applied to all forms of fibrosis of the liver, and this particular form of disease of the liver is therefore described as portal or Lænnec's cirrhosis. Another difficulty is that a variety of disease processes may give rise to much the same end result in the liver and be labelled in common as cirrhosis. You will understand, therefore, that although in a short lecture I must dogmatise and describe the different types of cirrhosis as well-defined pathological entities, it may be exceedingly difficult to say how the cirrhosis has arisen in an individual case.

In the early stages of portal cirrhosis the liver is enlarged, its surface smooth. There are scattered foci of degeneration and necrosis of the liver cells with a characteristic hyalinisation of the cells and vacuolisation of the nucleus. These foci are absorbed and replaced by fibrous tissue. The connective tissue also shows signs of inflammation —œdema, leucocytic infiltration and proliferation of fibroblasts. The disease is, therefore, a chronic hepatitis in which parenchyma and stroma are equally involved. The unaffected liver cells undergo proliferation and regenerating cells are found in groups which are more or less circumscribed and are the forerunners of the hyperplastic nodules of the established disease. They are not so large, and

since the fibrous tissue has not contracted around them they are not so prominent. The cells near the portal areas are most severely affected, but as the disease advances the normal liver structure is obliterated and replaced by nodules of regenerating liver cells, usually not larger than a split pea, surrounded by dense fibrous tissue. In the later stages, the liver is usually smaller than normal, the surface nodular. It may, however, be of normal size or even larger. The size, indeed, is not a fundamental pathological feature, but depends on many features—the extent of the parenchymal degeneration and the proliferative changes in the connective tissue, the contraction of the scar tissue, the amount of degeneration and the presence or absence of fatty change.

I shall speak first of the effects of the fibrosis on the vascular system, and I must point out that though these effects are seen most characteristically in portal cirrhosis, they occur in the advanced stages of all forms of cirrhosis. The vascular supply of the liver is of great complexity and delicacy. About 60 per cent. of the blood is supplied by the portal vein and the remaining 40 per cent. by the hepatic artery. The portal veins branch and subdivide to end in terminal twigs which open into the sinusoidal capillaries. These capillaries are the only connection between the portal and hepatic veins. The artery gives branches which supply the connective tissue of the portal spaces and the capsule. It also gives rise to branches which end directly in the sinusoids, at the periphery of the portal spaces. By a delicate nervous mechanism derived from the splanchnics and located chiefly around the hepatic artery, the small arterial stream under high pressure and the large venous stream under low pressure are reduced to a common level at the commencement of the sinusoidal bed. The circulation is greatly impaired in cirrhosis. As liver lobules are destroyed the portal and hepatic venules come to lie together in the replacing fibrous tissue and they are gradually obliterated as this contracts. The regeneration nodules are supplied by the hepatic artery and with recurrent destruction and repair their capillaries become extremely tortuous. Injection experiments on atrophic livers show that the parenchyma receives practically no blood from the portal vein, being supplied entirely by the hepatic artery. As long as the arterial supply is free, liver function is well maintained. Ultimately the hepatic arterioles also are compressed in the scar tissue and hepatic insufficiency results. The following table (Rowntree) indicates how little of the portal blood passes through the liver. At a pressure of 20 mm. of mercury which probably represents the maximum pressure in the portal vein, only 5 per cent. of the perfusion fluid passes through the liver. As I have already indicated, it is probable that even this small amount does not reach the parenchymal cells but is shunted through the scar tissue. The remaining 95 per cent. must find its way back to the heart by collateral channels.

The collateral channels by which the portal blood returns to the heart may be classified as follows. Firstly, there are the veins at the upper and lower ends of the gastro-intestinal tract. At

Perfusion of Liver in a Case of Advanced Portal Cirrhosis and Ascites.

Pressure mercury mm.	Time, minutes, for each 1000 cc.	Amount recovered.			
		Hepatic vein.		Collateral channels.	
		Cc.	Per cent.	Cc.	Per cent.
10	—	No flow	0	No flow	0
15	—	No flow	0	No flow	0
20	7	50	5	950	95
30	5	70	7	930	93
40	2.5	88	9	912	91
50	2	90	9	910	91
60	1.5	105	10.5	895	89.5
70	1.5	105	10.5	895	89.5
80	1.25	114	11.0	896	89.0
110	1.0	136	13.0	864	86.0

Recovery from one litre of 0.8 sodium chloride solution at 37°C. perfused through the liver through the portal vein.

the cardia, the coronary vein of the stomach anastomoses with the intercostal, azygos minor and diaphragmatic veins of the caval circulation, producing œsophageal varices. At the anus the superior hæmorrhoidal vein of the portal circulation anastomoses with the middle and inferior hæmorrhoidal veins of the caval circulation and hæmorrhoids may develop. Secondly, there are veins representing the obliterated umbilical circulation along the ligamentum teres. Thirdly, there are veins at all situations within the abdomen where the gastro-intestinal tract or the glands developed from it come into contact with the retroperitoneal tissues. This includes the veins of Retzius from the duodenum, small intestine, colon, omentum, spleen and pancreas, and the accessory veins of Sappey from the liver, both establishing an anastomosis between the portal and the caval veins.

The anastomosis at the lower end of the œsophagus is of very great importance because of the development of œsophageal varices and the liability to hæmatemesis. The opening up of veins in the round ligament gives rise to enlarged veins in the abdominal wall in which the blood flows away from the umbilicus towards the deep epigastric and the mammary veins. It is less well-known that the collateral circulation through the veins of Retzius causes enlargement of the lumbar veins which can be demonstrated by making the patient lean forward and strain. Other results of the portal obstruction are ascites and portal thrombosis, but of these I will speak more fully later.

The bile ducts also are compressed in the fibrous tissue and areas of bile stasis and dilated bile ducts can always be found in sections of the liver. Overt jaundice is usually a late phenomenon. It occurs as a terminal event in about one-quarter of all cases of portal cirrhosis and is then chiefly dependent on the final breakdown of the circulation through the liver. Jaundice may, however, occur earlier in the disease. An attack of jaundice is sometimes the first sign of cirrhosis of the liver—the signal jaundice of Rolleston. In other cases, jaundice occurs during the course of the disease, often as the result of intercurrent infection. The liver may be much enlarged at these times, apparently from fatty infiltration of the cells, and a mistaken diagnosis of biliary cirrhosis may be made. An interesting case in which two such attacks of jaundice occurred with intercurrent infection is described by Schneider :—

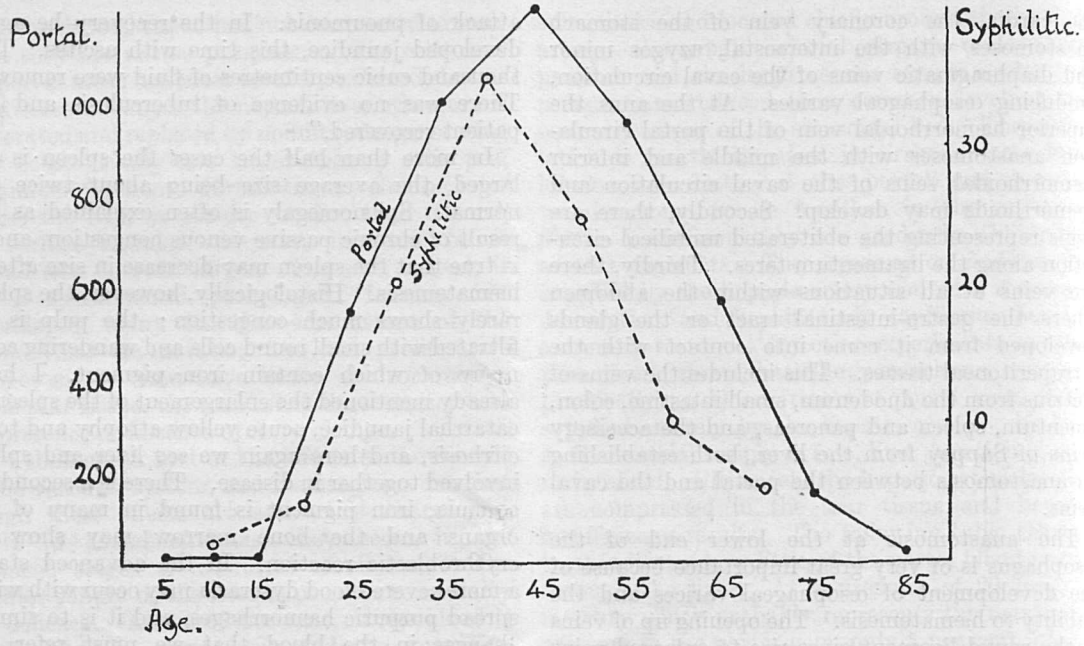
"A man had pneumonia and intense jaundice. He recovered. Following this it became evident that he had cirrhosis of the liver which was progressing. Seven years later he had another attack of pneumonia. In the recovery he again developed jaundice, this time with ascites. Two thousand cubic centimetres of fluid were removed. There was no evidence of tuberculosis and the patient recovered."

In more than half the cases the spleen is enlarged, the average size being about twice the normal. Splenomegaly is often explained as the result of chronic passive venous congestion, and it is true that the spleen may decrease in size after a hæmatemesis. Histologically, however, the spleen rarely shows much congestion ; the pulp is infiltrated with small round cells and wandering cells, many of which contain iron pigment. I have already mentioned the enlargement of the spleen in catarrhal jaundice, acute yellow atrophy and toxic cirrhosis, and here again we see liver and spleen involved together in disease. There is a secondary anæmia, iron pigment is found in many of the organs and the bone marrow may show an erythroblastic reaction. In the advanced stages a more severe blood dyscrasia may occur with widespread purpuric hæmorrhages, and it is to similar changes in the blood that we must refer the tendency to epistaxis and menorrhagia. It will be more convenient to discuss the relation of splenomegaly to cirrhosis of the liver and the role of splenectomy in treatment when we consider Banti's syndrome and the splenomegalic cirrhoses. For the present I will merely mention these points of contact of portal cirrhosis with splenic anæmia and with hæmochromotosis.

AGE INCIDENCE OF PORTAL CIRRHOSIS.

Under 1	9
Total under 5	11
5 to 10	11
10 to 15	9
15 to 25	553
25 to 35	1,061
35 to 45	1,196
45 to 55	959
55 to 65	560
65 to 75	146
75 to 85	14

Portal cirrhosis is a disease of middle life. In the accompanying diagram I have charted the age incidence of 4,737 deaths from cirrhosis reported to the New York Health Board between 1889 and 1899 and analysed by Crook. Of these cases 62 per cent. were males and 38 per cent. females. There can be no doubt of the importance of alcohol in the causation of the disease. The majority of cases of cirrhosis occur in confirmed alcoholics and the disease has declined in frequency of recent years proportionately with the decrease of heavy drinking. The mode of action of alcohol



remains uncertain. It is probable that there is a direct toxic action on the liver cells and that there are secondary effects due to alcoholic gastritis. Arsenic is another proved ætiological factor and a number of cases of cirrhosis due to chronic arsenical poisoning have now been published. Typical portal cirrhosis is not infrequently found in syphilitic subjects, but in these cases it is often impossible to exclude the effects of alcohol and arsenic. Other agencies mentioned are tropical infections such as malaria and dysentery and focal infections especially in the gall bladder and the appendix. For many cases, particularly those occurring in children, no cause can be found, and the familial incidence of some of these cases illustrates the importance of individual predisposition. It is the man with a vulnerable liver who develops cirrhosis from alcohol, just as a small percentage of individuals gets toxic jaundice after a therapeutic dose of salvarsan. In this regard I may remind you of the rarity of cirrhosis in patients with alcoholic insanity. "Alcohol in small or even moderate doses, and certainly alcoholic abuse even for comparatively short periods of time, as a general rule is sufficient to bring the epileptic, the imbecile, and the potential lunatic to the asylum long before he can drink enough to produce a cirrhotic liver." (Mott.)

I shall devote little space to the signs and symptoms of established cirrhosis. There is a history of alcoholism and alcoholic pharyngitis and gastritis. The complexion is muddy and icteric, the cheeks show stellate venules and capillary telangiectases, the lips are red and dry, the body is wasted and contrasts with the belly swollen with ascites. The liver and spleen may be palpable, ascites, especially if it recurs after tapping, profuse and recurring hæmorrhage from varicose veins, jaundice, purpura and marked cerebral disturbances, particularly coma, all indicate a serious prognosis. In rare instances toxic symptoms without jaundice may be the first signs of cirrhosis, and the stupor deepening into coma, with stertorous breathing, closely simulates uræmia. In the great majority of cases of cirrhosis death finally results from intercurrent infection or from cardiovascular disease.

It is easy enough to diagnose the disease in its advanced stages,but it is then too late to help the patient. Of 77 cases of alcoholic cirrhosis dying with ascites or jaundice at the Boston City Hospital, only three had had the diagnosis of cirrhosis made one or two years before their last entering the hospital (Nissen). Yet there is clear evidence, both from the post-mortem room and from clinical experience, that cirrhosis may be arrested and healed in its earlier stages. As long as the disorganisation of the liver is not too great to allow a sufficient blood supply to the surviving liver cells, life may be prolonged indefinitely. It is true, there is always the risk of hæmatemesis, just as hæmoptysis may occur in healed phthisis, but this is rarely fatal. The following case illustrates how good health may be maintained in spite of hæmatemesis :—

A stevedore, aged 52, who had taken alcohol to excess for many years, was admitted to hospital for hæmatemesis. The abdomen was explored by the surgeon; the stomach and duodenum were normal, but the liver was cirrhotic. Six years later he had hæmatemesis and melanæna for which he was given medical treatment. He was a powerful, well-nourished man with a cirrhotic facies. There was epigastric discomfort but no ascites. The barium meal showed nothing abnormal in the stomach or duodenum. The Wassermann reaction and the Van den Bergh reaction were negative.

It is, therefore, essential to be familiar with the earlier symptoms of cirrhosis if the disease is to be diagnosed in a curable stage. Signal jaundice has already been mentioned and there may also be bilious attacks and transitory slight fever. There may be a sense of weight in the right hypochondrium and actual pain, tenderness or enlargement of the liver. Other early signs originate from the gastro-intestinal catarrh which is induced both by the alcoholism and by the portal congestion. The tongue is coated, the appetite is capricious. Flatulence, epigastric distress, and bloating occur, especially after eating. The action of the bowels is irregular, and tympanites is present. Such symptoms occurring in an alcoholic subject should suggest the diagnosis of cirrhosis. This will, of course, be strengthened if there is splenomegaly or hæmatemesis. A positive Van den Bergh reaction, constant urobilinuria and the presence of gastritis, as shown by a test meal, will also confirm the diagnosis.

The first essential in treatment is to forbid the use of alcohol and all other stimulants such as coffee and strong tea. The diet should be bland and non-irritating, foods with a large residue, such as wholemeal bread, raw fruit and vegetables, being avoided. Green vegetables can be pureed and fruit given as fruit juice or stewed and strained. Protein should be kept low and the bulk of the calories given as carbohydrate. Gastritis is treated by washing out the stomach daily with a solution of hydrogen peroxide, one drachm to the pint, and under this regime the mucus disappears and the hydrochloric acid reappears and returns to the normal concentration. Septic foci should be appropriately treated. With this treatment in the early stages, the digestion is restored, the swollen liver returns to the normal size and the pain and tenderness in the right hypochondrium disappears. Hæmatemesis is treated in the ordinary way. I shall give you the treatment of ascites in a later lecture. Owing to the success of splenectomy in the treatment of Banti's disease, the operation has also been advised in portal cirrhosis, and as about 20 per cent. of the portal blood is derived from the spleen it would seem a rational method of reducing portal congestion. The results have not been very happy. In 35 cases operated on at the Mayo Clinic there were seven hospital deaths. Reports obtained later on 26 cases showed 10 patients living of whom nine were in fair condition (Giffin). Jaundice and toxic symptoms may be treated by intravenous injections of glucose, but in general they indicate too far advanced a form of the disease for treatment to help much.

Biliary cirrhosis.—Biliary cirrhosis may be of the obstructive or the non-obstructive type. You will readily understand that when the bile ducts are obstructed for long periods of time by a calculus, the bile channels in the liver become infected and the inflammation and fibrous tissue reaction around them produce a diffuse cirrhosis of the liver. There is a history of recurring attacks of temporary obstruction of the bile ducts usually with colic and jaundice. Clinical evidence of infection with chills, so-called hepatic or Charcot intermittent fever, is common. The danger of serious damage to the liver is one of the strongest arguments in favour of operation in cases of gallstones, and a number of cases have been described in which the cirrhosis of the liver resulting from gallstones and biliary obstruction has gone on to the production of ascites. Biliary cirrhosis may also develop without any obstruction to the larger ducts. The condition was first adequately described by Hanot in 1876.

"Anatomically the disease is characterised above all by an increase of fibrous tissue outside the lobules, often extending into the lobules and showing no tendency to contraction, and by a characteristic lesion of the bile canaliculi; exaggerated development and chronic catarrh. The clinical picture is composed of the following elements: chronic jaundice, considerable hypertrophy of the liver, often also of the spleen; absence of ascites and of abnormal enlargement of the subcutaneous veins of the abdomen, or slight importance of these symptoms when they do arise; phenomena of icterus gravis as the most common termination."

I would advise you not to use the term Hanot's cirrhosis as this is restricted by the pathologists to a special and uncommon form of biliary cirrhosis in which the very finest bile canaliculi are involved, the fibrosis is intercellular, breaking up the liver cell columns, and the liver surface remains perfectly smooth. It is better to speak of all forms as biliary or infectious cirrhosis. Usually the liver is greatly enlarged and of an olive green colour, the surface finely granular. The cut

surface shows a diffuse fibrosis, grey green fibrous tissue outlining the liver lobules. Histologically there is a broad zone of connective tissue around the portal vessels. The original lobulation is not lost as it is in alcoholic cirrhosis, and the liver cells are relatively well-preserved. The bile ducts of medium and small calibre are chronically inflamed, with desquamation and destruction of their epithelium and excessive proliferation of the connective tissue in their vicinity. Bacteria are often to be found within and around them. The new-formed fibrous tissue at first lies concentrically around the bile ducts, and from there spreads in fairly regular fashion outside and inside the lobules. In more acute cases necrosis and autolysis of the liver cells may occur, and the fibrosis is then less regular and the liver more coarsely granular. Biliary cirrhosis is the result of an ascending infection of the bile ducts by bacteria, such as the colon bacillus. I have already told you that a similar pathological process is believed to be responsible for the majority of cases of catarrhal jaundice, and it is interesting to note that cases of biliary cirrhosis often commence during epidemics of catarrhal jaundice from which other members of the family or community make a complete and a rapid recovery. The disease is most common in childhood and early adult life, and several members of the same family may be affected. The onset is like a catarrhal jaundice with nausea and vomiting and other signs of gastro-intestinal disturbance. Jaundice persists with varying intensity throughout the disease. The stools contain some pigment. The skin of the face and arms is often pigmented a brownish colour—melanoderma, and there is usually considerable itching. The liver and the spleen are greatly enlarged and the lymph glands in the neck may be palpable. In the later stages there is great wasting. In the more chronic cases periodic rises of temperature occur with abdominal pain, increase in size of the liver and spleen, gastric disturbances, intense jaundice and clay-coloured stools. Temporary remissions occur, but the general course is downhill, and death ensues with intense jaundice, purpura or cerebral symptoms after an illness of months or years. Occasionally, ascites developes shortly before death.

Treatment is unsatisfactory. Most success has been obtained by cholecystectomy and drainage of the bile ducts, and though this treatment is still too new for proper evaluation of the results, it should be strongly advised in what is otherwise a hopeless condition. Mayo has described improvement after splenectomy, but it is difficclt to see the rationale of this operation. The distressing pruritus may be relieved in this—as in other forms of jaundice—by calomel given on two or three days of each week in daily quantities of from one to two grains, in divided doses of $\frac{1}{4}$ to $\frac{1}{2}$ grain at half-hourly intervals. Emetine and diathermy may also give relief.

Syphilitic cirrhosis.—Involvement of the liver sufficient to give rise to clinical signs is not at all common in acquired syphilis. I have already referred to the toxic jaundice and acute yellow atrophy of the secondary stage, and I have mentioned the occasional occurrence of a multilobular cirrhosis of the liver, indistinguishable from portal cirrhosis, in old-standing cases of syphilis and in young subjects with the congenital form of the disease. Congenital syphilis may also cause enlargement of the liver and spleen at birth or in early infancy from an intercellular fibrosis.

In late congenital syphilis, between the ages of 10 and 20, and in the tertiary stage of acquired syphilis, gummata may form, producing an enlarged and irregular liver and healing with deep scars, which divide the liver into adventitious lobes (hepar lobatum). Ascites and jaundice occur if the portal vein or the main bile ducts are compressed, and the clinical picture may closely resemble portal cirrhosis. In the diagram I have

AGE INCIDENCE OF SYPHILITIC CIRRHOSIS.

1 to 10	1
11 to 20	4
21 to 30	20
31 to 40	35
41 to 50	25
51 to 60	10
61 to 70	5

charted the ages of 100 cases collected by McCrae and Caven and you will see that the disease has the same incidence as portal cirrhosis; the sex incidence is also similar, 66 per cent. males and 34 per cent. females. Characteristic early symptoms are weakness, loss of weight, failure of appetite and irregular fever and chills for which no cause can be found. There is often great pain and tenderness, for the gummata nearly always approach the surface of the liver and give rise to a localised perihepatitis. Jaundice and ascites develop in about half the cases. The ascites may require tapping several times and then disappear entirely, perhaps reappearing again after an interval of some years. Such a sequence of events is very different from the condition in portal cirrhosis where ascites is usually a terminal phenomenon. The liver is much enlarged and tumour-like masses may be felt on the surface. There is a tendency for the left lobe of the liver to be relatively more involved than the right. The spleen is usually palpable. The diagnosis may be difficult, as the appearance of the patient may

suggest malignant disease, infection of the gall bladder or liver, splenic anæmia, portal cirrhosis or tuberculous peritonitis rather than syphilis. It is, therefore, well to bear in mind that the cardinal symptoms of tertiary syphilis of the liver are a tumour of the liver, splenomegaly or ascites, associated with pain, fever and emaciation. The Wassermann reaction is positive in 80 to 90 per cent. of cases. The therapeutic test is also of great value, as the administration of mercury and iodide produces a striking improvement in the symptoms and in the condition of the liver. Arsenicals must not be given on account of the danger of acute damage to the liver.

Hæmochromatosis.—Hæmochromatosis is a rare disease in which iron pigment is deposited in the skin and the internal organs. It is a disease of the male sex, only one or two proved cases having occurred in women. The granules of pigment stimulate the growth of fibrous tissue. The most important results of this are cirrhosis of the liver and the chronic interstitial pancreatitis which leads to diabetes—diabete bronze. The skin varies in colour from a slate to a deep brown. There is no pigmentation of the mucous membranes. The internal organs are a rusty, ochre colour from the iron pigment. Normally the total amount of iron in the body is not more than 3 grams, but in this disease the liver alone may contain 30 grams of iron. The essential feature of the disease seems to be an abnormal retention of iron due to inability to excrete this element. The onset is insidious with malaise, general weakness and a sense of weight in the right hypochondrium, and it is probable that the disease is present for years before any symptoms arise. The majority of the cases only come under medical notice when the diabetes develops. This is a late event in the disease, being preceded by pigmentation of the skin and enlargement of the liver and spleen. The diagnosis can be confirmed by the demonstration of iron in sections of the skin or in the urinary sediment. The diabetes should be treated by diet and insulin, but there is no known method of checking the pigmentation and fibrosis of the tissues.

Hepato-lenticular degeneration.—Wilson in 1912 described a very rare disease which is characterised clinically by muscular rigidity, tremor, defects of articulation and deglutition, mild dementia and, in some cases, a greenish pigmentation at the limbus of the cornea, and pathologically by cirrhosis of the liver and degeneration of the corpus striatum affecting the putamen in particular. The cirrhosis of the liver, which is of the portal type, is an invariable feature of the disease. It produces no symptoms in life. Wilson's disease is more common in males and is sometimes familial. It appears between the ages of 10 and 25 and produces death from increasing rigidity and weakness after an illness of one to three years' duration. It is of interest to note that a similar group of symptoms—cirrhosis of the liver and signs of progressive lenticular degeneration—is produced by chronic manganese poisoning both in animals and in man.

INCIDENCE AND CLASSIFICATOIN OF CIRRHOSIS.

	No.	Per cent.
Post-mortem examinations (more than 1,000 in children)	5,400	—
Well-marked cases of cirrhosis	250	4.63
Classification of cirrhoses:—		
1. Alcoholic cirrhosis	114	45.60
2. Pigment cirrhosis	19	7.60
Types 1 and 2 combined (the lesions of alcoholic and pigment cirrhosis both present)	50	20.00
3. Syphilitic cirrhosis	15	6.00
4. Infectious cirrhosis	13	5.20
5. Toxic cirrhosis	10	4.00
6. Old healed cirrhosis, type not determinable	29	11.60

Conclusion.—The above table by Mallory, whose classification I have used, indicates the relative frequency of the different forms of cirrhosis. Portal cirrhosis is responsible for about two-thirds of all the cases, and it is well to remember this when you are tempted to diagnose the more uncommon forms of the disease. Jaundice and enlargement of the liver and spleen may occur in portal cirrh sis, just as much as in biliary cirrhosis and toxic jaundice. A careful clinical history, with special attention to such questions as alcohol, drugs, previous attacks of jaundice and dyspeptic symptoms, often helps one to make the correct diagnosis. In other instances, you remain faced with what I have described before as the obscure case of protracted jaundice, and in my opinion, the only sensible plan then is to recommend a laparotomy, at which the physician should be present to see what the operation discloses and to discuss the appropriate treatment with the surgeon.

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Interviews with the Really Great

III.—MR. G. N. WOOD

WE met appropriately enough on the polished deck that is the pride of Addison. "Certainly," said Mr. Wood, anticipating my intentions and at the same time consulting his expensive chronometer. "It is barely eight bells, step into Sister's cabin, I shall feel quite at home there and entirely at your service. 'Ware flower bowl to starboard," he added, as I sank into one of the many comfortable armchairs that adorn that remarkable apartment.

"We are interested, Mr. Wood," I said, "in the reasons which led you to choose Medicine as an auxiliary to your sea-faring career and particularly in what led you to come to Guy's."

"Well, in the first place," said Mr. Wood, "A certain amount of surgical work is obviously of benefit to one's knotting, while splicing may be conveniently practised in conjunction with the nursing staff. Then again, there are periods of the year at which one's boat simply has to be laid up for repainting and so on, and residence at Guy's during these unfortunate times holds many attractions—for instance, the college bedrooms are without exception of cabin-like dimensions and cosiness, while the college cooking is strongly reminiscent of that done with an oil stove on *Albatross*. Then again, the general atmosphere of indigestion that follows a going-off dinner has almost the tang of a cross-channel steamer. College life, I can assure you, has a great deal to commend it."

At this point I felt it wise to try another tack.

"Is it true, Mr. Wood," I put in "that you are in a fair way to becoming a professional best man?"

"Well, although I have seen several acquaintances safely anchored in the orthodox manner, my extensive experience of these solemn occasions has convinced me that when the time comes I shall pick up my own moorings with the aid of a registry office," confessed Mr. Wood. "A smart and easy get-away can make all the difference when a sudden breeze springs up on the not too sheltered sea of matrimony."

Mr. Wood stood up and gazed out of the window down into the Park. Having waved affectionately to three Sisters and executed a brief hornpipe, he sat down again. "I make it a rule," he resumed, "to keep on good terms with the nursing staff; while being but distantly polite to Junior Pros. and such small fry, I take considerable trouble to know the senior ladies more thoroughly. Each week I take out a different Sister to tea, entertain two Staff Nurses in my cabin in the college, and am careful to be seen talking with not less than four head-nurses. On the first Monday after Lent I give the Matron a box of chocolates. As you know a sailor is said to have a wife in every port, and I am a keen nautical gentleman myself."

Thinking it was time to change again to a less delicate subject—though Mr. Wood himself did not appear in the least embarrassed—I hurriedly put another question.

"What are your impressions of the post of Vice-President of the Residents, Mr. Wood?" I enquired.

He thought awhile and then, taking a deep breath he began, "To a man who can appreciate the joys of endeavouring to obtain incredibly large sums of money from ridiculously poor people who first refuse to believe that they owe such sums, and secondly, deny that they possess even infinitesimal fractions of such sums, the job would be a veritable godsend. Personally I am not such a man. I find sea air not at all conducive to book-keeping, although, of course, for many years I have kept a daily entry in my log. Perhaps you would like to see this famous log of mine. Yes? Well, I will show it to you—though there are not many who have seen it." With these words Mr. Wood pulled a large vellum-bound volume from his hip-pocket. "Here we are now."

"July 17th. Set fair. Tea with Sister X. Spliced 2 feet of mainsheet.

July 18th. Raining. Tea with Sister Y. Still raining. Spliced another 3 feet.

July 19th. Heavy gale blowing. Took Staff-Nurse Z. out to lunch. Set fair in afternoon. To Residents' Dinner in evening. Did not splice anything.

July 20th. Snowing hard. To Bosham and *Albatross*."

"Of course, that's during the summer. Now let's look at a winter entry. Here we are."

"November 10th. Had tea with Sister N. Took Nurse M. out to theatre.

November 11th. Lunch with Nurse K. Bought new mainsheet for *Albatross*. Tea in Sister L.'s room. To theatre with Sister P."

Mr. Wood closed the book hurriedly.

"Of course," he put in "I only write down the more important things that I do. I frequently do a great deal of work and I have another hobby besides those I have already mentioned."

"NESBITT"

"What is that?" I enquired politely.

"Collecting curios—particularly those with nautical or military interest. I often go to the various London markets and pick up things I want for a mere sea-shanty. The other day, for instance, I acquired a cross-cut saw, a binnacle lamp, a mangle, a garden-roller and a dinner-service, for an absurdly small price. They'll all come in useful on *Albatross*."

Mr. Wood took another hurried glance at his chronometer.

"By me halyards," he exclaimed, hoisting his trousers in true nautical fashion, "we're well into the middle watch and look like having dirty weather. I must spank that jibboom" and with these words he moved off with his swinging stride, rolling ever so little as nautical men will.

BROWSER.

The Periodontal Tissues

Lecture by Arthur D. Black, A.M., M.D., D.D.S., Sc.D., Dean of North Western University Dental School, Chicago, before the Students of Guy's Hospital Dental School, August 16th, 1929. The Lecture was illustrated by about 20 lantern slides.

MR. CHAIRMAN AND GENTLEMEN,—In the study of dentistry some years ago, our attention was focussed very much on the reparative services, and as time has passed in our dental colleges we have realised more and more the relationship of dental service to the general health, and have, therefore, studied what was not done in the early days, those medical sciences which are necessarily the basis for an understanding of dental disease and of dental practice. It seems to me that the time is rapidly coming now when we again need to shift our view-point, and that we should have uppermost in our minds the possibilities of prevention, which means, in the first place, that we need to have, possibly, a better understanding of the normal structure and function of the various tissues with which we are concerned. With that as a picture, we need to think of the normal healthy mouth from two points of view: first, the possibility of maintaining it if the individual is brought to us early enough in life, and, second, the possibility of restoring it when diseased in any way so that the mechanism is injured.

It has been suggested that I should speak to you to-day regarding the periodontal tissues. Accordingly I shall review, rather briefly, certain of the tissue elements concerned, primarily from the standpoint of their function; not that I care to discuss function with you here this morning so much as the use of the knowledge of function from the point of view of what may happen or may not happen when that function has been lost; in other words to come finally to the question of what may happen in the way of repair where we have a definite injury to the periodontal tissues.

We ought to review thoroughly—which I know you have already done—the histological structure, the anatomical relations and the physical functions of all the tissues of the mouth, and particularly the supporting structures of the teeth. We need to think of the teeth in normal occlusion, and the forms of the surfaces of the teeth, that food will be inclined to pass over the margins of the gum tissue without injuring them. We need to think of those fibres of the periodontal membrane which come out from the cementum of the tooth close to its junction with the enamel and which cause that hugging of the free edge about the enamel, so that it will not be hurt by the food which is pressed against it, because I am convinced that a large number of our cases of periodontal disease result from injury to those fibres which cause that close hugging of the free margin of the gum tissue about the neck of the tooth. When sagging once occurs there is small possibility of getting that tissue back to normal. We need to think, too, of the interdependence of the supporting tissues of the tooth. We need to think of the different groups of fibres of the periodontal membrane itself. I call your attention to this as a matter of mechanism. We are especially interested in those groups of fibres which pass out to the crest of the bone, and of the horizontal group below that, and the arrangement of them to prevent the tooth being swung sideways by lateral pressure. We have to think what happens to these fibres tend to press the tooth laterally; and we must think of those fan-shaped fibres about the apex of the root, and the part they play in the possible movements of the tooth. We have here a very nice mechanism; that if there were too much pressure on the inclined plane of a cusp, there are groups of fibres which hold the tooth against that pressure. We have to think also of what will happen if these fibres are not strong enough to withstand the pressure which is brought to bear in any particular direction. That, we will return to.

We need to study also the direction of the blood vessels and the blood supply of the periodontal membrane. There are blood vessels which pass into the pulp, with six or eight branches passing into the periodontal tissue, other vessels which pass over the crest of the bone into the periodontal tissues, and others which pass through the bone. But the main point I would leave with you about this is, that after the vessels reach the periodontal membrane, practically all of them run parallel to the long axis of the root. We did not see the importance of that years ago, but the studies of Schultz in 1912, and especially those I have been acquainted with of Dr. Fred Noyes of Chicago, on the lymphatic vessels of those tissues, have brought to us, I think, the missing link in the pathological changes which occur in the periodontal tissues as the result of infections which begin in the gingival crest.

These vessels have branches far into the gingival epithelium. So it seems an easy matter for the infection to be taken up by the lymphatic vessels which are attached to the walls of these

blood vessels, and, by those lymphatics, carried down into the periodontal tissues and give rise to disturbance of that membrane. Dr. Noyes not only demonstrated these in the periodontal tissue, but also in the pulp, and followed them down into the cervical glands, which were made blue by the solution used. So in the presence of the lymphatic vessels, which follow the routes of the blood vessels, parallel to the long axis of the root, we have the explanation that men have sought for many years as to the reason why the pocket alongside the tooth has always progressed more rapidly in depth towards the apex of the root than it has spread laterally around the root. In fact, I have never seen a pocket which was wider anywhere in its depth than it was at the opening where the first break occurs in the soft tissue.

And I call your attention to one situation, so far as the bone is concerned, which has always struck me as a very interesting and important one in connection with our studies of the two types of chronic infection with which we are concerned, primarily, in the mouth: the chronic alveolar abscess, and the periodontal pocket. That refers to the normal reaction of the bone of the alveolar process and the supporting bone below when we extract a tooth. The bone about the sides of the socket is absorbed, while that about the deeper portion builds in to form what has been called the residual alveolar ridge. If over any portion of the surface of a root of a tooth which is not extracted, the periodontal tissue should be destroyed by suppuration in the formation of a pocket, have not we the right to say we expect these same changes in the bone? The overlying bone would then be absorbed, whether involved in the infective process or not. In cases of chronic alveolar abscess, if we should remove the dead pulp and relieve the infection, even though much of the periodontal tissue may have been destroyed about the apex of the root, there would be no tendency for absorption of bone. The tendency is for this bone to build in, and in the X-ray picture it would look as if there had been healing. But we still have the question of the condition of the cementum, and the fact that cemento-blasts have been destroyed. In the chronic abscess we have the normal tendency of the bone to build in, and, therefore, bone would only be destroyed as a result of the overpowering effect of the infection. It would not be absorbed. We have thus two forces opposing each other: the normal action of the bone, and the infection. But in the case of the periodontal infection we have those two forces working together to carry away the bone overlying the destroyed periodontal membrane.

Let us run over the picture of the changes, as I see them, that take place in the periodontal tissues as the result of an infection, which may break through the epithelium. If I were asked to state the order of those changes, I would always say, first, that something must have happened to the epithelium of the gum tissue to reduce its resistance; what that might be I shall not discuss now, because probably most of you would say the same things as I would. Second, that infection would pass through that epithelium. I cannot conceive of infection of very low grade, such as we have in these pockets as a rule, penetrating normal healthy epithelium. When we think that a pocket alongside the root of a tooth may progress a millimetre or two in a year, on the average, we must realise that we are dealing with one of the mildest types of infection. Therefore, it would be difficult for an infection of that character to pass through any reasonable thickness of epithelium. The first break in periodontal tissue would be a break which would necessarily occur as the result of the destruction of the tissue immediately about the blood vessels; and in the microscopical sections of these tissues two changes are observed. (1) There is a gradual destruction of tissue round blood vessels, and (2) a gradual thickening of the blood vessel walls, so that in many cases the lumen of the blood vessel will be obliterated and the blood vessel absorbed.

As a result of infection, we should soon have destruction of the short ends of fibres attached to the cementum and of the cementoblasts, and with the destruction of those tissues the bathing of that cementum with pus; and on the other side the disappearance of these fibres and of the bone itself as a result of infection or by absorption, or both, leaving a pocket with the cementum denuded, and an overlying connective tissue more or less protected by a down growth of epithelium from the gum margin.

We have examined hundreds of sections of tissue cut off in such a way as to enable us to study the epithelium because I think the epithelial reaction in these cases is the most important item we have to consider from the standpoint of treatment. Just in proportion as we get a good down-growth of epithelium do we limit the recurrence of infections of the pocket. Fortunately, clinically, it is simple to tell whether we have such a growth of epithelium or not, because if we take a thin-bladed instrument which has a dull edge, and carry that instrument into that pocket and manipulate it gently, there should be no hæmorrhage if there is a good epithelial lining, any more than if we manipulate it on the surface of gum tissue. If the pocket bleeds easily, we may be sure there is not a good protective lining.

Now I must say a word about the cementum, because it seems to me that the lack of under-

standing of the structure of the cementum has led, possibly, to more argument than has any other single thing in connection with the study of the pathology of this condition. We have here a tissue which is laid down gradually by cementoblasts lying on its surface and gradually moving outward as it grows larger, a tissue without circulation of blood, a tissue which is entirely passive, that is to say, one which cannot react to irritation, as other tissue does. Possibly we can best compare it with the finger nail. If we scratch the finger nail on the surface, nothing happens; and not until we got through that nail would anything happen, either in the way of a reaction to irritation or an attempt to rebuild. It has been said that there is no reason why the tissues of a pocket should not heal if the infection was removed from it for a limited time. We have, in the tissues overlying the pocket, all the elements which would make possible a re-attachment; but the cementum can start no activity of its own. In addition, it has been soaked in pus for a long time, and certainly a living tissue would not be inclined to form an attachment to it.

Let us now speak of the method of pocket formation, as I see it, in cases of trauma. We have discussed the condition or type in which the original injury has occurred to the gum margin, and in which the infection plays the more important part, the periodontal membrane itself is destroyed, and subsequent to that the bone of the process disappears. In cases in which traumatic occlusion is the primary cause of the destruction of these tissues, the steps in that destruction are almost the opposite. I have got the best understanding of what may happen to these tissues as a result of traumatic occlusion, by thinking of what happens when we do the same thing in the practice of orthodontics. If we exert a lateral stress slowly on the tooth of a young person, the building of new bone occurs on the outer surface, and the absorption of bone on the inner surface of the process, on the side against which pressure is made; and bone is built on the inner surface and absorbed on the outer surface on the opposite side; thus the bone is maintained about the root.

I have no doubt that in many cases, particularly in young adults, traumatic occlusion is accommodated by this process taking place; that is to say, the tooth moves over, and bone rebuilds some, absorbs some, and no harm is done. But we are concerned with cases, at the moment, in which that does not happen. Some years ago, in giving some lectures and clinics for the University of California, there was brought in a boy aged 13, for whom we had to recommend the extraction of four first molars and of all eight incisors, because someone had put on an appliance, such as was for some years in vogue, in which it was proposed to set the spring so that in two or three months, it was expected, he would come back with his teeth in beautifully normal occlusion. Many men tried to carry out that plan. In the case of this boy the spring had been set too strong, and the teeth had been changed into an approximately normal position in three weeks. When I saw the patient the periodontal membrane had been almost entirely destroyed about those twelve teeth, and so much infection was present that we did not feel it safe to leave any of them in.

In cases in which a lateral traumatic occlusion is too great to be accommodated by absorption and rebuilding of bone, there usually occurs a slight swelling or redness of the gingivæ, followed by absorption of bone of the process, beginning at the crest. The tooth would soon be loose, because of the lack of support of that bone, and, eventually, because of the undue movement of the tooth and the irritation caused to this tissue by that movement, it would become inflamed and infected, resulting in the formation of a pocket.

It seems to me that, at least in a measure, we should be able to distinguish between these two types of cases clinically. After the periodontal tissues have been destroyed, it does not make very much difference what the cause might have been. But in cases in which it is discovered that the tooth is loose and some bone has been absorbed before there has occurred a pocket, there can be little question but that traumatic occlusion is the cause, and the occlusion should be relieved by grinding, and with the probability that the bone will be rebuilt. There is no reason why the fibres of the periodontal membrane should be absorbed and disappear because the bone has been absorbed. I have said that if the fibres were destroyed the bone would be absorbed; it is a question of the opportunity of these tissues to function.

Now, going back to the other type of case, to raise the question of grinding the occlusion in cases of periodontal disease. In every case in which there is a pocket formed, even though there was normal occlusion in the beginning, and even though this pocket were formed entirely as the result of infection, with no traumatic occlusion, there will develop traumatic occlusion as the result of the formation of a pocket, provided there is another tooth in the way, which can be traumatised. That is to say, we have to take into consideration the lack of balance of these fibres of the periodontal membrane which occurs when they are detached on one side. We have heavy bands of fibres attached all the way round, and these fibres are all pulling in their several directions. If the fibres

are destroyed on one side of the tooth, there is nothing to counter-balance the pull on the other side, and the tooth tends to move. If there were not traumatic occlusion beforehand, then the result of that effort at movement would be to establish a traumatic occlusion on the opposing tooth.

In such a case, if the occlusion is relieved by grinding, the tooth is permitted to move further, and the more one grinds the more the tooth may move. Therefore, it becomes a question in the management of these cases, as to how much we are justified in grinding. But I say positively, that in the cases where we may discover the looseness of the teeth due to absorption of bone, before the pocket is formed, we should grind to relieve the stress.

In the matter of treatment let us now consider those cases in which the pocket is formed. In these cases, if we would judge by a review of the literature made fifteen years ago, most writers expected to get re-attachment of the tissues to the surface of the root. But that idea has been changing markedly in recent years, and, to-day, we are teaching that re-attachment does not occur, or if it does, it is in such a small minority of cases that, for practical purposes, we eliminate it from our consideration, and we are paying more attention to the epithelial reaction, in developing a protective lining against re-infection. Obviously, the deeper the pocket, the less likely is that growth of epithelium to be a good growth, and the shallower the pocket, the better it will be.

So that divides our treatment into two parts. We will say—without being more definite than this—that for shallow pockets we are inclined to follow thorough scaling and prophylaxis, and very intense irrigation and cleanliness of that pocket, in the hope of being able in that way to maintain conditions which will induce epithelium to form a good lining to the pocket. In deeper pockets, where we think that is not likely to occur, we cut away that tissue and eliminate the pocket. You may be interested to know that this method of treatment, so far as I know, was first introduced by a Frenchman, named Bordet, in 1757, and is very nicely described in his book of that date. Bordet says that where you have a pocket which is quite deep and does not respond to ordinary treatment, a wire is heated to a great heat and passed down into the pocket, to cauterise that tissue—I am not recommending this treatment to you—and if it does not heal, he does it again. And, he says, if the patient will not submit to a third use of the wire, he cuts the tissue away, and he describes the method of cutting, stating that you must use a heavier bladed instrument than one for lancing an abscess. What happens when that tissue is cut away is that within ten days the epithelium will grow across and will be tough enough to be brushed without it bleeding. During the period of the next few months the connective tissue underneath will gradually push the epithelium upwards, until it forms a new gingiva which is similar to the normal one. Apparently by reason of the fact that good epithelium grows over the newly cut surface, it maintains itself on the inner side of the newly developed gingiva.

A patient came into our clinic early in September, and on examining his mouth it was decided that his four lower incisors should be removed. He had a strong feeling towards saving these teeth, but I told him it was hopeless. "But," I said, "I am willing to experiment with you if you are willing to be the victim." He said he would be willing for anything if he could save his teeth. The bone was gone to a level about 3 mm. from the apices of the roots, and all four teeth were very loose. I cut away that gum tissue to the level of the bone. That was in September, and we carried him along until December. In December I cut through the gum, drilled some holes through and cut across the bone, and removed all four teeth with enough labial bone and gum tissue to hold them together. A labio-lingual microscopic section was then made, which showed the newly formed gingiva with a good epithelial lining. It also showed that the outer surface of the labial bony process was being cut away by osteoclasts to reduce its thickness to that of a normal bony crest. This happens in all cases that do well.

And one other word on the management of these cases. I think that, the world over, dentists are extracting far too few teeth which have this type of infection; and I would not suggest to you, nor to anyone, the plan of eliminating pockets for teeth which are loose. Teeth should be reasonably tight in their sockets, so tight that good contacts may be maintained.

I wish to express to you my great appreciation of the opportunity of addressing you, and to wish you every success in your practice.

Notice

The S.S. White Co. of Great Britain has just issued a pamphlet, "An Unusual Book," which is obtainable from their Borough branch This booklet contains a number of practical hints, set out in an orderly and concise manner, hints which can only be collected by years of laboratory experience. A new use is found for old corks and there are other wrinkles for the repairing of broken dentures, the casting of inlays and the cleaning of files and impression trays. Amid the practical hints are some useful tables of value to the dental mechanic and surgeon alike.

Nursing in India

NURSING life in the East in a British Hospital is full of possibilities, to appreciate which, one must be imbued with a keen sense of humour and a Heath Robinson bump of ingenuity. You have to be prepared to cope with anything from the Native Ward Boy who doesn't dust one day because he knows he'll have to do it the next day, there being an inspection, to the Orderly who blithely states that he never uses a watch to take a pulse, you having noticed the remarkable similarity between all the pulses of 25 patients. And one can hardly blame them for giving a patient with dysentery a rectal washout, or even an olive-oil enema, with a Higginson's Syringe when such difficulties arise as the following incident will show. I was detailed to give a delirious patient a nutrient enema. I received the order at 9 a.m. I located the rectal apparatus quite easily as it had been used the night before. I only required a rubber catheter or rectal tube to make it complete. I was assured that there were eight large catheters in circulation somewhere; after half-an-hour I gave the search over to two Orderlies, and carried on with mixing the solution. My first set-back was the only bottle of saline was marked "Saline Solution, use as directed"—no strength, no directions. I used common salt.

I found the bottle of glucose black with ants. Having melted it, I measured out the required amount plus ants. I proceeded to dilute and strain (cyanide gauze being the only kind available). I do not know the nutrient properties of formic acid, but I am quite sure there must have been 75 per cent. in that solution of glucose.

Having procured a jug and brandy, I proceeded to interrogate the rectal tube search party—result nil. The store keeper presented me with a gum elastic douche nozzle with much éclat, it was useless for me to explain I wanted to give saline to be *retained* not *returned*. It was 10 a.m.; in desperation I cut an oblique end off a bit of rubber tubing and proceeded very slowly. We had gone about half way when the tubing split from the nozzle down, at the same moment the patient returned the whole of my carefully prepared nutrient enema! Is it a wonder we sometimes long for the perfect equipment of our Training Schools, but nothing is appreciated till you have to do without it!

In spite of this and the drawback of the climate, we still manage to laugh and talk of our good old Training School days.

AN OLD GUY!

Hospital Information, etc.

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K. O. Parsons, M.C., F.R.C.S., 26, Downs Park West, Bristol.

Birth

WHITLOCK—On August 2nd, 1929, at Villa Vita, Shortlands, Kent, to Sylvia (née Wells) the wife of Denis Whitlock, F.R.C.S.Ed.—a son.

Marriages

SMALLBONE—MANN.—At Edinburgh, on Saturday 29th June, Eric G. Smallbone, M.R.C.S., L.D.S., youngest son of Mr. and Mrs. F. Smallbone, of Rozelle, Cheshunt, Herts, to Jean, youngest daughter of the late Alexander Mann and Mrs. Mann, of 11, Afton Terrace, Trinity.

REEVES—ENGLISH.—On July 13th, 1929, at St. Matthews, Westminster, Guy Kingham Reeves, L.R.C.P., M.R.C.S., of 104a, Tulse Hill, S.W.2, to Audrey Malcolm English, of 35, Poynders Road, S.W.4.

EDS. {O. P. E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

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PASSIM

A Summer that has accustomed the Colonnade to the daily spectacle of a tropical suiting and seen the gloomy courtyard of Guy's House change into a sunlit square, lively with half-clad children, may already lay claim to a certain measure of achievement. But, other, and even more lasting changes are in evidence. We refer to the long-discussed rebuilding of that gaunt angle of the Hospital which juts out into Maze Pond at its southernmost end.

We are now able for the first time to look out of the Front Surgery windows into Newcomen Street, and the intervening space is a scene of steady demolition, where ragged heaps of bricks and mortar strew the ground, and clouds of dust settle on everything ; these are the remains of the houses that formerly occupied the corner behind the Surgery, and we realise that the work of clearance has at last started in preparation for the new Out-patient Department that is the outcome of Sir Gilbert Wills' generous gift.

The new buildings, we learn, will have an entrance from Newcomen Street ; they will be built as an extension of the present buildings, and will have a frontage of 200 feet upon this street. They will house the majority of the present out-patient departments on its four floors. The Salomon Centre is to occupy the wing that will fill the corner between Newcomen Street and Maze Pond. The new surgical out-patients will be on the ground floor, while the floor above is to be a model ear, nose and throat department ; still one higher will find the obstetricians at work, and those out-patients who can scale the last flight of stairs—we do not suppose they will be allowed the use of the new lift—will be able to see the neurologists and psychologists, or alternatively, the dermatologists. In addition, the ground floor will contain a new female wing to the front surgery in place of the present one, while the men's side remains unchanged ; patients will, unfortunately, still be exposed to the rigours of the open in passing from ambulance to surgery, no alteration being made to the surgery entrance.

Thus, it appears that almost the whole of the present out-patient building is to be vacated, and, as yet, we understand no definite arrangements have been made for its use. It is, however, probable that the X-ray department will be centralized in part of the existing hall—a boon to O.P.O.'s who, at present, have to walk almost the entire length of the Hospital in order to exclude a fracture.

We had thought at first that all might be completed before the Borough returned from its locust-like descent on Kent, or if not this year then, at least, next, but the official plans would have us believe that it is likely to be the year after before the opening ceremony is performed. It is difficult to realise the amount of work that is to be done to extend heating and lighting arrangements to make the new building habitable ; old hot-water pipes must be replaced by those of wider bore ; the existing cables for electricity must be augmented by some 2,000 lbs. of copper strip ; such preliminaries are in themselves a big undertaking.

For two years the hardly-used take-in A.H.S. is to be wakened early by the enthusiastic works department starting each successive day. Whether at the end of that time he is to sleep in a room free from all the noise of traffic, which he at present enjoys, is rather a problem ; no doubt, his slumbers have, as usual, not been considered.

THE full significance of the presence of an R in the month has not escaped the *Evening News*, and we read in a recent issue :—

> " Oyster lovers will realise with zest that to-morrow is September 1, when they can once more enjoy their favourite course.
>
> ' Professor J. W. H. Eyre, the bacteriologist to the Worshipful Company of Fishmongers, maintains a vigilance that insures that you can order oysters without the slightest danger,' said an official of the Company to a reporter."

While greatly intrigued by the knowledge that the health of the humble native has been entrusted to such capable hands, we have not found it unusual for our bacteriological department to emulate the oyster, and herein no doubt lies the explanation.

AN invitation to read a paper to the Physical Society is undoubtedly the one possible climax to a successful career in the wards, and, no matter whether the audience receive the address with a respectful silence, or are provoked to an animated discussion, the time and labour involved will prove to have been well spent.

We are asked to announce that the Secretary, Mr. N. L. Eckhoff, will be glad to hear from all those in the fourth or fifth year who have a suitable subject in mind or feel themselves competent to tackle a suggestion from other sources.

MR. J. M. LEES has been appointed Ophthalmic House Surgeon for six months from the 1st of September, 1929.

The Congress of the International Council of Nurses

At Montreal, Canada, August 8th—15th, 1929. By Miss E. E. P. MacManus

THE International Council of Nurses is made up of one National Association from each country, composed of trained nurses or representative societies of nurses where the training of nurses has reached a required standard. The Congress is held four-yearly, and the last meeting took place in Finland in 1925. This year in Montreal, 8,000 trained nurses, of whom 3,000 were Americans, were present in the Forum at the opening meeting, and on the occasion of the admission of new countries, representatives from Jugo Slavia, Sweden, Greece, Phillipine Islands and Japan. Conferences and meetings were held daily by every section of nurses interspersed with delightful hospitality arranged by our Canadian hostesses—for luncheon, tea and supper in hospitals, country clubs or private houses and the opportunity that this affords for making international friends—is one of the great benefits of such a Congress of Nurses.

No two countries have the same nursing problems. Belgium, for instance, has a large field for district work and not enough district nurses unless their training can be speeded up. Since the War, America has opened 600 new hospitals and nursing schools—how could enough experienced teaching and administrative staff be found ? In some parts of America there is an over supply of private nurses, drawn by the lure of large fees, and experienced hospital sisters are hard to get and harder still to keep. In China sporadic revolutions may upset the conduct of Nurses' State Examinations. One set of examination papers was scattered to the winds before correction; an extraordinary meeting of the remaining examiners decided that all the candidates had passed. In Cuba, bogus nurses are very daring, and to defeat them, each registered nurse deposits a card at the Central Nursing Bureau, Havana, bearing her legalised signature and photograph. Cuba has, at present, eight schools of nursing which prepare students for State examinations. It was a revelation to me to hear of all the splendid modern nursing work going on in so many different corners of the globe.

The approach to Canada is not easily forgotten—icebergs, the Labrador Coast, and the Straits of Belle Isle. You think you have arrived, but it is two days more, steaming up the St. Lawrence, before you reach Quebec—that haunting city, half medieval France and half young business Canada. Within the City walls are steep paved streets, little alleys, hidden convents and hospices and glimpses of charming old-world French residences ; and below, on the river front, grain elevators, factories and immigration sheds. Here, on the quay, Miss Tremaine, who nursed the King after his accident in France, is in charge of the Red Cross unit, which is composed of a rest room for mothers, a children's nursery, dispensary and canteen. With helpers and interpreters and by means of a stock post card printed in many languages, this Red Cross unit puts all women immigrants into touch with the District or Field Nursing Association in the town to which they are going—a splendid piece of work. Both in Canada and in the United States, the Field Nursing Service seemed to employ the very best type of nurse, unobtrusively doing first-class work.

In Montreal, five hours' train journey up the river, there are a number of hospitals, the two

best being the General Hospital in the lower town, and the Royal Victoria Hospital (700 beds) above the town on the slopes of Mont Royal. The latter consists of huge buildings in grey cut stone, resembling a series of Scottish baronial castles, a general ward building, maternity building, private pavilion, and numerous offices and annexes, all connected by a spacious subway. A train from the lower town brings out-patients to within a quarter of a mile, but one feels that for sick patients the hospital is rather inaccessible. It is close to the upper grounds of McGill University and convenient for medical students. At the top of the medical building at McGill is the Osler Memorial, a beautiful little gem of a library, a marble entrance, black and white streaked, quiet and cool oak bays inside, old editions of rare books—Osler's personal collection.

There are many interesting old French hospitals in Montreal—the Hotel Dieu, only second to the Hotel Dieu in Quebec—founded by the Jesuits in the earliest days of the Settlers, the Hospital of Notre Dame, and the Miseriecordia. The Shrine Hospital for Crippled Children is an excellent place perched among the pine trees on the side of Mont Royal. Partitions, half wood and half glass, divide each bed. There are wide sun porches to every ward. Clever sun-blinds are fixed to the head of the beds of the permanent outdoor cases. Veranda cottages are set down among the trees. I saw a Scouts' camp fire place or tent in a sandy clearing where the stronger boys are allowed to camp and cook their supper on Saturday evenings—every evidence that the children are well nursed, happy and progressing well. All the special hospitals that I visited, both in Canada and America, seemed to be particularly good.

The Grand Council was invited to Ottawa, about a four hours' journey. The C.P.R. most generously put on an early morning special train for our use. One Belgian sister arrived just as the train started. They stopped it for her—to her amazement! Our Transatlantic cousins arranged that committee meetings should be held on the train, that no time should be wasted. Mr. McKenzie King, Canada's Premier, received the Council members in the Parliament Building and gave them a warm welcome, after which the whole party were shown the lovely buildings and War Memorial, and later were driven through the town, a real garden city embowered in flowering shrubs and trees, and half circled by the Ottawa River—of Canadian Boat Song memory. The Civic Hospital, a huge new building wonderfully equipped and standing in fine grounds, and the City Hospital right in the town, are the two chief General Hospitals. One is struck by the ample space everywhere. Tea with the British High Commissioner, Sir William Clarke and Lady Clarke, and a banquet of 400 in the Hotel Laurier at 7 p.m., back to Montreal at 1 a.m.!

The Toronto General Hospital (900 beds) is one of the most beautiful hospitals that I have seen—a range of big buildings, set among really lovely gardens, separate blocks for private, general, gynæcological and obstetric patients, a huge pathology block, the nurses' residence, and other annexes and offices. The hospital is easily accessible from the town, which, being fairly flat, has a simpler town plan than Montreal. The wards are cool and airy, bare but not unsightly, and one felt a fine spirit pervading the place. The School for Nurses offers two courses in nursing—(i) Three years general nursing training; (ii) A course in Public Health Nursing in connection with the Department of Public Health Nursing of the University of Toronto.

From Toronto round the head of Lake Ontario, a few hours' journey, brings one to Buffalo and the U.S.A. Customs officers work through the train, and guilty consciences stir uneasily. Buffalo is a busy commercial city. Lunch at the Statler Hotel is a memory not to be forgotten. My hostess, the Matron of the Buffalo General Hospital, showed me a very busy and competent nursing school. From here we visited Niagara twice, first crossing by the Peace Bridge and driving 25 miles down the wooded Canadian shore, passing at intervals, holed motor boats, relics of Customs encounters, and the second time driving on the American shore, where the beauty of the Niagara River has been spoiled by factories and refuse dumps.

Nothing can spoil the wonder of that mighty rush of water. The broad river slips quietly round Navy Island, a big island reputed to be a centre of the rum-running trade. Then the current quickens, and begins to gallop along, humping, foaming, rearing, leaping wedges of water, curling backward in great thrusts, swinging forward again; then the river really slopes—rocks show above the turmoil; two large barges battered and twisted lie on their side, gripped by the ledges of rock, witnesses of some long past catastrophe. Then the leaping water flattens, racing like a hare with its ears back, and leaps into space. The falls are really a range of falls—about 300 feet high, divided by quite a big island—Goat Island. Near the Canadian shore, the Horse Shoe Fall, a huge curve, is the finest spectacle, but the American Falls are very beautiful and slightly higher.

I visited many hospitals in the States. In Boston, the Peter Bent Bingham, which has an

eight months preliminary training school for nurses and two years and four months ward work, making up a three years training. In Providence are the Providence Lying-in Hospital, one of the finest maternity hospitals in the country, and the Butler Mental Hospital, where Dr. A. H. Ruggles, the Medical Superintendent, and his staff have instituted a home atmosphere for even the most intractable of patients, and where all forms of restraint are reduced to a minimum. At New Haven the Yale School of Nursing presents some outstanding features. A gift from the Rockefeller Foundation in 1923 made possible the establishment of a School of Nursing at Yale University. The Faculty accept nurses as candidates for the Degree of Bachelor of Nursing of Yale University. These candidates must have had a two years' college course, which included chemistry, psychology and the biological sciences, and must then work for 28 months in the wards of the New Haven Hospital and its affiliated clinics. The whole course practically takes five years to complete; this is a most interesting experiment. To English eyes it might appear that there was a danger of the nurse becoming too much of an educationalist and too little of a sick nurse, whose patients' personal comfort and mental happiness should be so large a part of her care, quite apart from nursing procedures. The Yale nurses were charming girls from whom the very best type of nurse could undoubtedly be made.

At Washington, whose temperature of 97 degrees in the shade reminded us that it was on about the same latitude as Lisbon, one of the most interesting nursing features was the Walter Reid Hospital and Army Medical Unit—a big place widely spread about a fine estate. Here officers, soldiers and their families and dependents were admitted as patients, and the American Army Medical Corps had instituted an Army School of Nursing, unlike our English Army Nursing Service which consists of trained nurses only. It seemed doubtful whether the nursing students really had sufficient material available to give them a thorough general training.

From Washington, and all its civic and historic beauties, to Baltimore seemed travelling from the frying pan to the fire—the heat wave was at its height. Johns Hopkins Hospital is too well known to need much description. An older hospital than most in America, it has rebuilt extensively of late years and draws medical men from all over the world. Here I met Mr. Waterfield and just missed Mr. Raike. The nurses work on the ordinary general training system in this hospital and it seemed a more familiar organisation.

The Medical Centre, New York, once again presents new problems. Here the Presbyterian Hospital has a fine nursing school, part of which is run on university lines, in connection with Teachers' College, Columbia University. The Medical Centre is so vast that it defies description. The Presbyterian Hospital occupies a sky scraper. The wards tower above lesser buildings; far below one sees the road and gardens, and, lower still, the Hudson River. The equipment is the best that modern thought and skill can devise and the general lay out of wards and departments most convenient. Some wards are decorated with a soft-toned tree-patterned washable paper—and blue or green beds and furniture—to minimise the institutional atmosphere. All furniture throughout the hospital is made of metal, painted wood colour and fashioned to look like wooden articles—beds, dressing-tables, wardrobes, chairs, etc., etc.

In America, in general wards the beds are placed much closer together than they are in England. There is no extra furniture in wards, and frequently there are no flowers, bowls or plants. The result to English eyes is a barrack-like appearance and lack of homeliness. On the other hand, our ward rugs and over-furnished wards come in for much criticism. The nursing staff does not seem to be sufficient for the needs of the wards, and—a far greater drawback—the ward sisters (or head nurses, as they are called in America), have to do a very large amount of daily clerical work, and do not seem to have enough free time to spend in actually supervising the nursing of the patients. Ward sisters are not given sitting-rooms, and do not appear to consider their wards as their professional home in the same intimate sense as English sisters. A system of supervising ward sisters' work by several daily rounds from the training school office does not add to their feeling of responsibility, and in consequence, it seemed to me that something was lacking in the relationship between the ward sisters and their hospital. The system of employing outside trained nurses as specials for bad cases also seemed to take away the responsibility of the hospital nursing staff to their patients. In America you must not ask to see the "Matron." You may be sent round to see the matron—coloured or otherwise—who has charge of the coloured domestics. The Superintendent of nurses is the head of the nursing school.

The kindness and hospitality of my Canadian and American Hostesses I shall never forget. They were never too tired or to busy to show us everything, and, if there were any free hours, to devise something for our recreation. I hope some day to be able to repay them when they visit Guy's.

Heart Attacks

A Clinical Lecture delivered at Guy's Hospital, July 19th, 1929, by Dr. J. M. H. Campbell, F.R.C.P.

GENTLEMEN,—The title of this lecture is wider than the particular attacks, with which I propose to deal; for I shall exclude all those with pain as the main feature—whether from coronary thrombosis, angina, or other causes which may or may not be connected with the heart—and also those with paroxysmal dyspnœa in elderly patients with arterio-sclerosis or myocardial disease.

In an excellent lecture on a similar subject published in the *British Medical Journal* for 1928, Carey Coombs used four main headings according to the symptoms: (1) Palpitation. (2) Fainting and giddiness. (3) Pain; and (4) Dyspnœa. It is with the first two of these groups that we are concerned, where there is fainting, or where, without loss of consciousness, the patient complains of faintness, palpitation, or acute discomfort. These must be taken together, whether he becomes unconscious or not, because they are so closely connected.

It is a truism that both palpitation and fainting occur most often in patients who have nothing the matter with their hearts, but they do occur quite often as a result of heart disease, which may be serious or relatively harmless, and the diagnosis is, therefore, all the more important.

Even excluding those attacks of pain and dyspnœa there is more than enough for one lecture. This will deal with the attacks where there is usually no heart disease, *e.g.*, ordinary fainting and allied attacks; and the next with those due to definite changes in the heart—often but not always associated with structural disease—*e.g.*, paroxysmal tachycardia and fibrillation and Stokes-Adams attacks.

The word syncope has not been used in reference to these attacks, partly because it does not include those with mere faintness and palpitation; but even more because its two different meanings are such a serious drawback that medicine would be better without it. In most dictionaries it is defined as fainting, without any reference to its more serious meaning for certain types of sudden death—a sense in which it is widely used in death certificates. Looking through various text-books, I found the word used indiscriminately in these two senses, but more often for the more serious attacks.

If there is any connection between these two things, then, of course, every fainting attack is serious, and to some extent that is the lay point of view. Whether there is any justification for it or not, the adult who faints or the parent of the child who faints, thinks of it as evidence of heart disease and possibly of serious import, unless his previous experience has taught him to the contrary. It is a mistake to confirm that view by using the same word for both conditions, and sometimes by our own attitudes because we are not sufficiently sure whether they are fainting attacks which do or do not matter and so give too guarded a prognosis. It is better to avoid the word "syncope" altogether, and simply speak of these occurrences as fainting attacks.

PETIT MAL AND MENIERE'S SYNDROME

Before discussing fainting attacks in detail, there are two things to exclude. One is petit mal, the minor form of epilepsy, and the other is the occasional case of Menière's syndrome in which there is loss of consciousness. The latter is rare, the former extremely common. It is surprising how often a case of petit mal is brought to the doctor as suspected heart disease. Those ignorant of epilepsy conclude it is an ordinary fainting attack, and that the heart is, therefore, affected—both wrong deductions—and those familiar with epilepsy hope against their better judgment that it is only an ordinary fainting attack. As soon as you begin to ask about the family history of epilepsy they know all about it; but they dread the diagnosis of it in yet another member of the family.

In considering petit mal, some of the attacks may be very easy to distinguish from faints. The easiest—and I think the commonest type of petit mal—is where the patient does not lose consciousness long enough to fall. Such a patient may think little of it himself; it is only someone who sees him having an attack who knows what has happened. The patient may stop in the middle of a sentence, and look blankly in front of him, and may momentarily stagger but recover before the actual fall. He has not lost memory of what took place just before. Therefore, such attacks can only be detected by close observation. But if you get a good description, or see the incident, it is easy to be sure it is petit mal and not a fainting attack. If it goes on to grand mal and there is a convulsion with it, that is equally easy to recognise.

The difficult cases are those which last longer, so that patients do not remain standing or sitting, but fall to the ground and recover without convulsions, and without the blue colour seen in grand mal. Though a patient with petit mal is more likely to hurt himself through the fall than

a patient fainting, it may happen occasionally with either. So the fact that a patient has once hurt himself in a fall does not exclude either a faint or petit mal, but it is, of course, much more common with grand mal, and you get severe injuries only with grand mal.

The mental condition after the faint will generally help. After the short petit mal attack some patients have headache and some experience a certain amount of mental lethargy; many, however, will be normal. Headaches do not occur after an ordinary faint, and if the patient feels anything after that, it will be the same slight feeling of discomfort and giddiness as before the faint, and caused by the same conditions. This will help and so will the duration of the attack. If it lasts more than a minute, it is generally not petit mal (though, of course, attacks of grand mal last longer), and you may be almost certain it is an ordinary faint, where there is often a lengthy period before the patient is completely conscious again. The family history may help; if you know someone else has epilepsy, it becomes suspicious, though, of course, it does not enable you to make a diagnosis.

Menière's syndrome is less common. In that, there is buzzing in the ears and then severe giddiness, which may be enough to cause the patient to fall. Generally that is all, and the patient does not become unconscious; but sometimes he will become unconscious. In this, as in petit mal, a large number of the patients are thought by themselves or by others to have heart disease. If they have such definite giddiness that it leads to their falling, it is unlikely to be caused by heart disease. A patient with aortic incompetence often has slight giddiness, or faintness, but he will not have true vertigo. The only thing which justified the association in your mind is that often Menière's syndrome is due to cerebral arterio-sclerosis affecting the labyrinth, and the patient who has arterio-sclerosis there may have it elsewhere, and, therefore, may have heart disease secondary to changes in the coronary arteries, or to high blood pressure. So a certain number of patients with Menière's disease will be found to have heart disease as well, though there is no direct connection.

FAINTING ATTACKS

Some time you may have an opportunity of examining a patient throughout the whole of an ordinary fainting attack; more often you do not see the beginning. I have only twice been actually taking the pulse when a patient fainted—as so often happens with rare events, twice on the same day—and in both these young women exactly the same thing happened. It is often thought that there is a rapid feeble pulse during a faint; but that is not so at the beginning. During the attack it is slow, often so slow that you may wonder whether the pulse is coming through at all at certain times, and there may be irregular intervals. Then it quickens up, and it is during this quickening up that patients are ordinarily seen, and they are semi-conscious rather than quite unconscious at that stage. That rapid pulse may last a considerable time, but the slow pulse, as a rule, lasts only a minute, or sometimes for two or three minutes.

We know, fairly definitely, what happens in these attacks, which are due to cerebral anæmia. So all the factors which predispose to cerebral anæmia predispose to fainting attacks. All of you have seen many people fainting, and these factors you know a good deal about. Heat is extremely important; also standing upright, and standing, or even sitting, in a fixed position, because then you cease to have a proper venous return such as is ensured by the contraction of the muscles of the legs during exercise.

Emotion is a notorious cause. If you have read Conan Doyle's "Red Lamp," there is an amusing description of a man who faints during his surgeon's best story because he thought an operation which had been postponed was still taking place. There are many people in whom bad news or, less commonly, good news, produces faintness. The emotional side, presumably acts reflexly in the same way, by producing splanchnic vaso-dilatation, so that there is a poor cerebral supply.

The effect of heat is obvious, for there is cutaneous vaso-dilatation. The occasion on which I have seen more faints than on any other was an O.T.C. Field-day at school. People had been standing many hours to be reviewed in Windsor Park, and one saw them falling like ninepins with a dozen on the ground at once. It was an exceptionally hot day and the standing had continued for many hours.

Another factor, which is not always considered, is indigestion. When fainting has not occurred in childhood, but starts later, indigestion is a likely cause, and becomes increasingly important as age advances. In most fainting attacks, the history is found to be very similar, and you have not much difficulty in coming to a diagnosis. The mechanism of the slowing pulse is, almost certainly, vagal inhibition.

A valuable distinction about ordinary fainting attacks is the age of the patient. If he is under 40, it is rare for the faint to be associated with heart disease. A girl with mitral stenosis may, of course, faint, but fainting in such patients is not particularly common; rather the reverse, for they lead a quieter life than others. So, though

occasionally a patient with heart disease faints, you can generally say that the fainting, in itself, does not matter. If the patient has aortic incompetence, you must be more careful, because then there is a tendency to cerebral anæmia with giddiness and faintness, but I do not think complete loss of consciousness is much commoner.

When you come to patients over 40 years of age, there are an increasing number of more serious reasons for loss of consciousness, so that a larger proportion of cases are serious. The only conditions under which you can neglect recurrent fainting in older people are where it occurs with the vasomotor disturbances of the menopause, or where they have been accustomed to faint all their lives. Then fainting probably does not mean any more than in the young. A history after 40 years of age of fainting, or even of palpitation without loss of consciousness means that a very complete examination of the heart is needed. And the main thing you are likely to find is arteriosclerosis, which acts in several ways. Sometimes the loss of consciousness is due to cerebral changes. Sometimes the effects are cardiac ; the patient may be having attacks of irregular rhythm—frequent extra-systoles, paroxysmal tachycardia or fibrillation, or Stokes-Adams attacks. These will be discussed in the next lecture.

To-day I want to illustrate several varieties of the first group which generally are not associated with heart disease, and next time to take the various attacks which do mean heart disease.

ILLUSTRATIVE CASES

The first patient I want to talk about is a lady, aged 33, whom I saw in May. On February 5th her younger sister, who had never suffered from a day's illness, was found dead in bed. Her husband woke up and heard a deep groan, and within a few seconds she was dead. One can take it there was no structural disease of the heart, because at the coroner's inquest there was a verdict of "status lymphaticus." At present, I am concerned with the effect it had on the sister, who was in good health and had never suffered from any serious illness or any cardiac symptoms. A few days later, about an hour after going to bed, she woke up, dreaming that she heard someone knocking. She then felt out of breath and noticed her heart beating very fast. As soon as she sat up in bed she felt faint and thought she would die. These attacks recurred each few nights and two or three times she had fainted momentarily.

It did not require much imagination to associate these attacks with her sister's death, and it was not improved when the doctor to whom she went stopped her playing all games. It may have been the wisest thing to do until he was certain, but every time a patient comes to you about a doubtful heart condition and you hedge in any way, or restrict what she is doing, you make her certain that she has heart disease ; and so, in this case, for she got attacks more frequently. Physical examination showed nothing. In such a case you want to use all extra methods, like X-rays and the electro-cardiogram. These were normal. I thought her attacks nothing more than a reasonable fear of suffering the same fate as her sister. With assurance as to this she has had no attacks since. She had actually made an appointment to play tennis the next day, on the assumption that I should allow her to go back to a normal life, and that was, I think, the response of a robust and healthy mind.

I may turn out to be wrong, and she may die in some attack, as her sister did ; but I am quite certain that as yet she has had no attack which has any significance at all and I feel that when there is some minute risk, perhaps one chance in ten thousand of something that one cannot prevent, it is for you to take this risk to your reputation, rather than let your patient worry about it indefinitely. It is not always easy to do so ; it is so much safer for you to say it is serious ; and if things go well to add that the treatment has been beneficial, and if badly that your prognosis was justified. But you should all have reputations which will stand one disaster ; and I am sure this is the right attitude to adopt.

The second patient was similar in having no heart disease, but a contrast in most other ways. She was 51, and after influenza began coming over faint and giddy, and thought she was dying in the attacks. This feeling is not associated with angina only, and only a small number of people with angina have it. Dr. Ryle has given several examples in the *Guy's Hospital Reports* for 1928, where it goes with what Gower described as vaso-vagal attacks. She was a big fat woman, weighing about 18 stone, and her doctor told her she had a fatty heart, for which nothing could be done. Probably he meant nothing very serious, but she assumed that she was going to die in one of the next attacks, and as these became worse, she changed her doctor. That is how I came to see her, because he was in doubt as to whether there was anything much the matter or not. I found a dozen people in a small room, waiting for her imminent death, and she was starting to have what was her worst attack. It was difficult to know, under those circumstances, what one was dealing with. She was propped up in bed, unable to speak, and was frothing at the mouth, giving a first impression of an epileptic, or of some cerebral arterial attack. But her colour was normal, and she was sitting up in the normal way ; and the

frothing might have been produced voluntarily by filling her mouth with saliva and then exuding a little at a time. Her pulse was regular, though that did not help as regards epilepsy, where it is regular. When she saw that we did not get very excited about her, she made signs that she wanted to talk, and that made me quite happy about her. With a little encouragement she was soon talking. When I had time to go into the rest of her history I found that for twenty-five years she had never walked without crutches, and that during the greater part of that time, she had been in bed for "rheumatoid arthritis," of which there were only slight signs. I suppose as the family had been getting tired of sympathising with her sufferings from this she developed the new attacks, which had become much worse under the diagnosis of "fatty heart." I do not think anyone will be able to get her back to a normal life after all these years, but she is not now so alarmed as she was over the attacks.

These first two are cases of functional attacks in patients having no heart disease at all; one arose as a reasonable fear in a normal person, the other as typical hysteria.

The next type I want to take is commoner and very important. To show how common these cases are, I may say that all the examples quoted were seen in the course of two months. This was a girl, aged 16, who was good at games and captain of her school hockey side. A month before she had felt faint at church, and had to be taken out. Fainting at church is so common that it made me almost certain she was normal. Often it occurs, and especially in older people, through having taken no food before going out. But she had an irregular pulse, and soon after she had a second attack while sitting down at her work. She was sent home and taken off all games and rested. The pulse varied from 48 to 70, and was more irregular each time she was examined, but polygraph tracings showed that the irregularity was only due to a rather extreme sinus arrhythmia. Cases of this kind illustrate the condition getting worse after all exercise is stopped, so confirming the patient's idea that there is heart disease. Thus you will see that it is a serious thing to stop exercise, particularly in younger people. When you find it necessary for some reason, such as rheumatic carditis, try and give a limit to it at once, so that the patient does not get the impression that he is crippled for life.

The next case illustrates a different point, though the history is similar in some ways. A lady of 40 years of age, she had influenza five or six weeks ago, and then, after a relapse, began having attacks of faintness and palpitation which became more frequent. She did not become completely unconscious, but felt limp, faint and very weak. On going into her history there were two difficulties. One was in deciding whether there was a cardiac lesion for, as a girl, she had rheumatic fever and had a systolic murmur, and the other was in being certain that she was not starting infective endocarditis, for she was rather anæmic and had much sweating. Some help was given by the history, for there were several things which made it likely that she (and her heart) would be in poor condition, temporarily, apart from any myocardial infection. Her first baby had arrived five months before, when she was over 40 years of age. A short time after, her husband got influenza, followed by pneumonia, and she had been looking after him in lodgings while her baby was very young; and then she herself got influenza. But I was not courageous enough the first time I saw her to say there was nothing the matter. We had to wait a month, preserving a non-commital attitude, until one saw she was enormously improved, and that there was no rise of temperature.

Some people would call this "influenzal myocarditis," which I regard as a bad term. We are not familiar in the post-mortem room with any form of influenzal heart disease except in the patient who dies in the acute stage; and when you find a patient's illness dates from influenza you generally find that there was evidence of heart disease before the influenza or that there is no heart disease at all. So, though there is no doubt about influenza frequently affecting the heart for a time, producing tachycardia and breathlessness, it is better to avoid the use of a term like myocarditis which suggests such a serious prognosis from the analogy with rheumatic myocarditis.

The practical difference is as to the prognosis and treatment. Such a patient, when kept in bed, ceases to improve after a time and will only recover with gradually increasing exercise. Thus it is very common after influenza for the tachycardia and other symptoms to last until the patient starts doing things, gradually increasing the exercise performed. And though in this patient I did not do so at first, after six weeks rest one was able to approach it on those lines.

These four cases have each an individual character; I could not pick out any other exactly like them. That is because such attacks are much influenced by the whole character and personality of the patient. But in petit mal and fainting attacks and Menière's disease that is not true, and there is a striking resemblance between one history and another. Most of the cases I have told you of are not associated with heart disease. Next time I shall talk about the more serious attacks which give much more trouble as to prognosis, and as to what you can safely allow the patient to do.

Six Weeks on a Tramp Steamer

By E. A. R. Berkley

I FEEL that I owe some apology for the narration and its title because there is a vogue at the present time among those who travel for pleasure to inflict upon their less fortunate brethren a series of articles upon their adventures and experiences immediately they return to their native shores. I had no adventures, but I saw some interesting things and propose to tell you about them; I entered into a life about which most of us know all too little, and I propose to tell you something about that also.

No words of praise can be adequately applied to the personnel of the Merchant Service; they are beyond praise. Their simplicity, their optimism and their kind heartedness are characteristics common to officers and men alike; they have their failings and short-comings, but compared with their good points these are trivial indeed.

The Skipper

I journeyed to Newcastle to meet Captain Thornton of the *S.S. Ariadne Alexandra*, and found him to be a slim, shortish man of forty; he was athletic of build and alert of eye. Being a North countryman true to type, he was taciturn enough in those early moments of our friendship. Without wasting precious moments we adjourned to a convenient hostelry and took stock of each other over tankards of bitter beer. I feel tempted to digress upon the topic of that joyous beverage, but space does not permit of it. Suffice it to say that after surveying each other in silence for some minutes, that delightful warm sensation which shouts louder than words, "Here's a friend!" surged over both of us and we were soon exchanging yarns of a seafaring nature. The Captain had heard through mutual friends of some of my adventures on the *Albatross*, and although I was a landlubber compared with him I was almost able to hold my own in the spinning of yarns without putting too great a strain on my powers of invention.

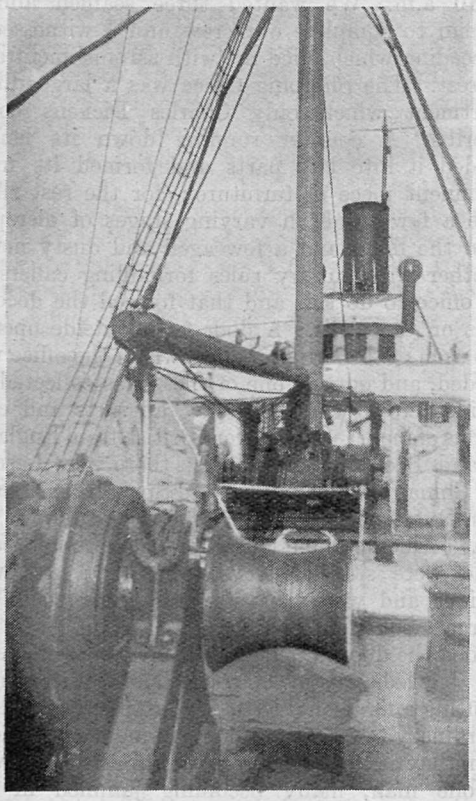
The following day I was due to sign on as purser to the ship, and accordingly I met Captain Thornton at the Shipping Office in North Shields at 10 a.m. We wanted three seamen and a fireman to complete our crew, and I witnessed a proceeding which filled me with astonishment and interest. The Shipping Office was a large, dingy apartment which only Charles Dickens could describe. A counter running down its length divided it into two parts and formed its most prominent piece of furniture; for the rest there were a few stools in varying stages of disrepair upon the floor, and a few aged and dusty maps, together with sundry rules forbidding callers at the office to do this and that formed the decorations on the walls. A door from outside opened into each of the two parts into which the office was divided, and outside one of these was collected an anxious crowd consisting of "all sorts and conditions of men." There were British from England, Ireland, Scotland and Wales; there were Lascars and Chinamen, Portuguese and Spaniards, Frenchmen, Dutchmen, Germans, Greeks, and I know not what besides. Some looked vicious, others clean; some were starved, others well-fed; all were anxious and were nervously clutching their discharge books in their hands. An official then opened the door outside which they were clustered and bawled out in a voice husky with much shouting and alcohol that the "Cap'n wants three H'ordinary Seamen and one Fireman!" Whereupon they assaulted the somewhat narrow doorway as one man, many becoming jammed in the entrance only to be propelled violently into the

building by helpful comrades from behind. Separated from us by the counter they all tried at once to press their discharge books upon the Captain who took the first three, scanned them, passed one back and took some more. By this simple process three sailors and a fireman were selected in about five minutes. The fortunates were then sent to the Federation doctor and the remainder took up their former positions outside the door.

We then adjourned to the Federation office where the selected men and myself signed the Articles binding them to serve the ship for six months with renewal of the contract at the end of that time if the Captain saw fit. The seamen were to receive nine pounds per month and the fireman nine pounds ten shillings.

Three days later the loading of our cargo of coal for Malta was completed, and we were towed down the Tyne at 5.30 in the evening.

A gale from the nor'ard having been blowing for three days previous to our sailing, we were greeted by a choppy sea the moment we left the Tyne. A southerly course was set and I took stock of my new surroundings.



Ariadne looking aft.

The *Ariadne Alexandra* was a ship of 3,000 tons burden and she was about thirty-six years old. At the time of her launching she had made no small stir, having a clipper bow and her masts and funnel set at a rake, so that she had the appearance of a steam yacht rather than a tramp steamer; also she could steam at eight and half knots, which in those days was considered a very high speed for that class of ship. The crew lived forward, the firemen on the port side and the deck on the starboard; the engineers lived amidships with their engines, and the Captain, mates and myself had our quarters under the poop in the stern. The galley was amidships over the engines. A companion led down from the poop deck to our accommodation and opened onto a vestibule from which opened from behind forwards the messroom, in which the mates and the wireless operator had their meals, the steward's pantry, the mate's cabins and the saloon. The saloon was the Holy of Holies of the ship and shared by the Captain and myself. From this opened out on the starboard side the Captain's berth, bathroom and lavatory, while mine opened out on the port side. A cheerful fire blazed in the saloon, and although it was April we were very glad of it until we rounded Cape St. Vincent.

The only outstanding incident of our voyage through English waters was the spectacle of the South Goodwin Lightship being towed up to meet us somewhere off the mouth of the Humber. A performance for which we were profoundly grateful to the authorities as it saved us the trouble of steaming down to it! We steamed through the Channel in fair weather, the last piece of the English coast that we saw being the cliffs known as the Seven Sisters in Sussex. Steaming at eight knots and covering about a hundred and ninety sea miles in the twenty-four hours, we rounded Ushant a day or so later and entered the notorious Bay of Biscay. Here I was disappointed. I had expected, nay almost hoped, that a gale would spring up and that my stomach would be put to a real trial of seaworthiness. The *Albatross* had frequently done her best to make me ill in the old days and in spite of ideal conditions for her mischievous designs had always failed to do so. Consequently, I was anxious to see what a small tramp steamer in a gale could do. It was not to be; the Bay was in a state of only calm.

Those early days were devoted to removing the thick coating of coal dust with which the ship had left the Tyne and this the Bo'sun and his men contrived to do with aid of hoses, a weird assortment of brushes and brooms, sodawater and much nautical language. Then followed the painting; the deck-plates red, the bridge, wireless operator's

room, rails and fittings white. I joined the Bo'sun and the crew in this great work of giving the dirty little tramp the appearance of a well-found yacht. The Bo'sun went about with the air of a high priest taking a religious service ; the pride he took in the transformation was stupendous, and although he worked harder than any of us he would pause every now and then and gaze round at our handiwork with his head on one side and a blissful expression on his somewhat battered countenance. "Eh, lad," he would say to me, with a nudge in the ribs with an elbow like a battering ram, "yon paint worrrk's fine ; we'll make herr look like a blank fine little yacht in a week ! "

There is none of that fine distinction that is such a prominent feature of the Royal Navy between officers and men on a tramp steamer. The crew and I were soon firm friends, and it was not long before I was enjoying the most intimate confidences of the men's domestic lives. The rumours had already gone forward that I was an amateur yachtsman of note and that I had frequently skippered such boats as the *Lulworth* or *White Heather* (they were never quite sure which) to victory over the King's Yacht at Cowes. In vain did I deny the truth of this statement, the men laughing my attempts at explaining away as modesty, which, to a sailor's mind, is a well-defined form of mania ; for who but a lunatic would deny doughty deeds when they have been ascribed gratuitously and when there is no evidence immediately available to test their truth ?

I awoke one morning just in time to save myself from being hurled out of my narrow bunk onto the deck ; it would have meant a drop of about five feet, as my berth was built on top of my chest of drawers. I staggered up on deck and nearly went overboard. A hasty but cautious retreat below was indicated, and on hearing strange but vaguely familiar sounds proceeding from the steward's pantry I poked my head in and found the steward being sick into a bucket. "Aye, thaat's champion ! " said that functionary as he surveyed the results of his labours with a gratified, if somewhat bilious eye, "Ready for breakfast, sir ? " "Yes," said I, without enthusiasm.

I gathered from him that we had crossed the Bay and were now off the West Coast of Portugal, and that the sea, lashed into fury by its fickle friend the wind, had gone mad during the early hours of the morning.

It was the custom in the saloon to take breakfast in pyjamas, and I found the Captain throwing water on the table-cloth and surrounding the crockery with neat little sandbags in the optimistic hope of keeping the articles upon the table. He met with a certain degree of success, but he had a narrow escape a few moments later when the coffee pot executed a neat side step along the table towards him.

Rough Sea off Cape St. Vincent.

The steward brought in our breakfast, and it consisted of a generous helping of tinned tripe, potatoes and a boiled egg. The skipper devoured his with obvious relish, having cut his egg up into small pieces and mixing it with the tripe. What could I do but admire the man ? I toyed with the contents of my plate for a few moments and then gave it best, confining my attention to the potatoes, egg and toast. Breakfast on board was always a hearty meal, there being a good solid dish of meat and potatoes followed by an abundance of toast and marmalade ; until that morning I had taken such fare as a matter of course, but on this occasion it seemed liked tempting Providence to partake of such a meal. I told Captain Thornton that his exhibition at the breakfast table was nothing better than an orgy of gluttony for which he would pay dearly later on, but he could not or would not understand my remark and calmly continued his disgusting prandial feast by starting

on the tripe which I had left. I abandoned him to his fate and the continuance of his unseemly revels while I completed my toilet sorely hampered by the antics of the ship. Before I leave the subject of that breakfast, and, believe me, I have no inclination to dwell upon the recollection of it, I must say a word more about our steward.

The Steward

He was a Yorkshireman of about fifty, and answered to the name of Fred. In spite of the fact that he had been at sea as steward or cook since he was a boy, rough weather invariably upset him for a day or so ; this weakness never appeared to worry him much, and he never allowed his work to suffer in consequence of it ; he was invariably in the best of spirits and always ready for a joke. On one occasion he was near to being acidosed from seasickness lasting thirty-six hours, so I brewed him a concoction of golden syrup ; he raised the glass to the light, subjected it to a searching scrutiny and said, " Rather flat, sir, rather flat, there's nout to blow off th' top ! " He retained rather more than half of it and apparently derived much benefit thereby. In appearance he was a man of middle height, but with the stoop of a " shell-back " of many years standing ; his face was a mass of wrinkles in which his eyes were set as two twinkling blue lamps of mischief ; his red hair grew in tufts sprouting from his scalp in all directions ; this imparted to him a comical appearance which he succeeded in living up to remarkably well. He could imitate a cat in such a realistic fashion that the presence of a feline visitor was at once the topic of conversation among people in his immediate vicinity. It was Fred's favourite joke to give a plaintive mew when passing the new hands, as he made his journeys to and from the galley. One morning I was painting with the new hands and the Bo'sun when we were startled by the cry of a kitten demanding sustenance in no uncertain tones. We looked up from our work.

" I didn't know there was a ruddy cat aboard this ship," said a Cockney to the Chilian who was working next him. " I 'ates cats. Always 'ave done ever since I was a blarsted biby ! "

Again came the cry of the hungry one, and with a ferocious expression on his face the Cockney led us in a hunt for the offending animal. A quarter of an hour later we resumed our tasks, having searched the deck and its possible hiding places for signs of the stowaway. We were frankly mystified and a little perturbed, especially the Cockney, who kept muttering bitter things under his breath and spitting over the side. The mewing started again as the steward happened to pass by and I looked up in time to see the expression of suspicion give place to a smile of appreciation on the face of the Londoner : " It was that perisher of a stooard ! Oi, Fred, I'll knock yer b——— block off, yer larsy old Tom ! "

" Nonsense ! " (or words to that effect) said Fred as he disappeared down the saloon companion.

All down the Portuguese coast we steamed against that south westerly gale, our speed dropping to about four knots. A grey sky with low scudding clouds above us, and a grey, angry sea of huge Atlantic rollers breaking into vast expanses of foam around us. The *Ariadne Alexandra* was rolling, pitching and tossing, badly taking the waves over her low decks fore and aft. Making one's way from one part of the ship to another was an athletic and somewhat undignified feat in which one exerted every muscle to prevent a ducking or worse still, a fall upon the slippery and treacherous deck. One's own anxiety was relieved when, having successfully negotiated the journey from the poop to the bridge and clinging with incredible tenacity to some point of vantage, one watched others assay the task, and the

cheer that went up when an unfortunate member of the crew received the best part of a wave full on the side of his head made an odd contrast to the howling of the gale.

The weather improved as we rounded Cape St. Vincent and we saw the mountainous coast of Portugal really well for the first time. We entered the Straits of Gibraltar in a blaze of sunshine, the green slopes and snow-capped peaks of Portugal and Spain on our port side and the rocky mountains of North Africa to starboard. It was a wonderful feeling to pass between two such coast lines which had been the scene of such stirring history when the Moors were great and later when Nelson had fought his last battle in the insignificant bay sheltered by the hills of Southern Spain. The little town of Algeciras lying hard by, both in the character of its name and in the design of its buildings, tells travellers of the old Moorish occupation, while it is not idle sentiment to say that the rugged outline of Gibraltar looming up over the port bow, sends a thrill of pride through any Englishman as he journeys eastward through the Straits.

From then till we reached Malta the weather was perfect; the brilliant sun in a cloudless sky, the sea deepest of deep living blue (the Mediterranean blue is no myth); those days I spent sunbathing on one of the hatches until I became the colour of mahogany. The sunsets beat description; there, for the first time, I saw the sun, a great, kingly, blood-red mass, sink into a violet sea with no vestige of a cloud on the horizon to shield the retirement of his celestial majesty from the curious eyes of mortals. The nights that followed were wonderful; the brilliant stars set like diamonds on a cushion of deepest violet velvet, even the gentle throbbing of the engines seemed in harmony with nature then.

(To be continued).

Guy's Hospital Musical & Operatic Society

STATEMENT OF ACCOUNTS FOR THE SEASON, 1928–29.

Cr.

	£	s.	d.
By balance brought forward from previous Season	36	15	1
By Donations—			
Sir H. Cosmo Bonsor £10 10 0			
Anonymous per Sister Johnson 1 0 0			
Other Donations 8 7 3			
	19	17	3
„ Returned from Customs and Excise	18	1	2
„ Sale of Music	6	10	0
„ Advertisements	9	2	9
„ Programmes	21	7	0
„ Refreshments	14	12	4
„ Subscriptions	5	14	6
„ Returned by Ash & Co. on Programmes	4	10	0
„ Sale of Tickets for the performance of Pirates of Penzance	288	12	6
	£425	2	7

Dr.

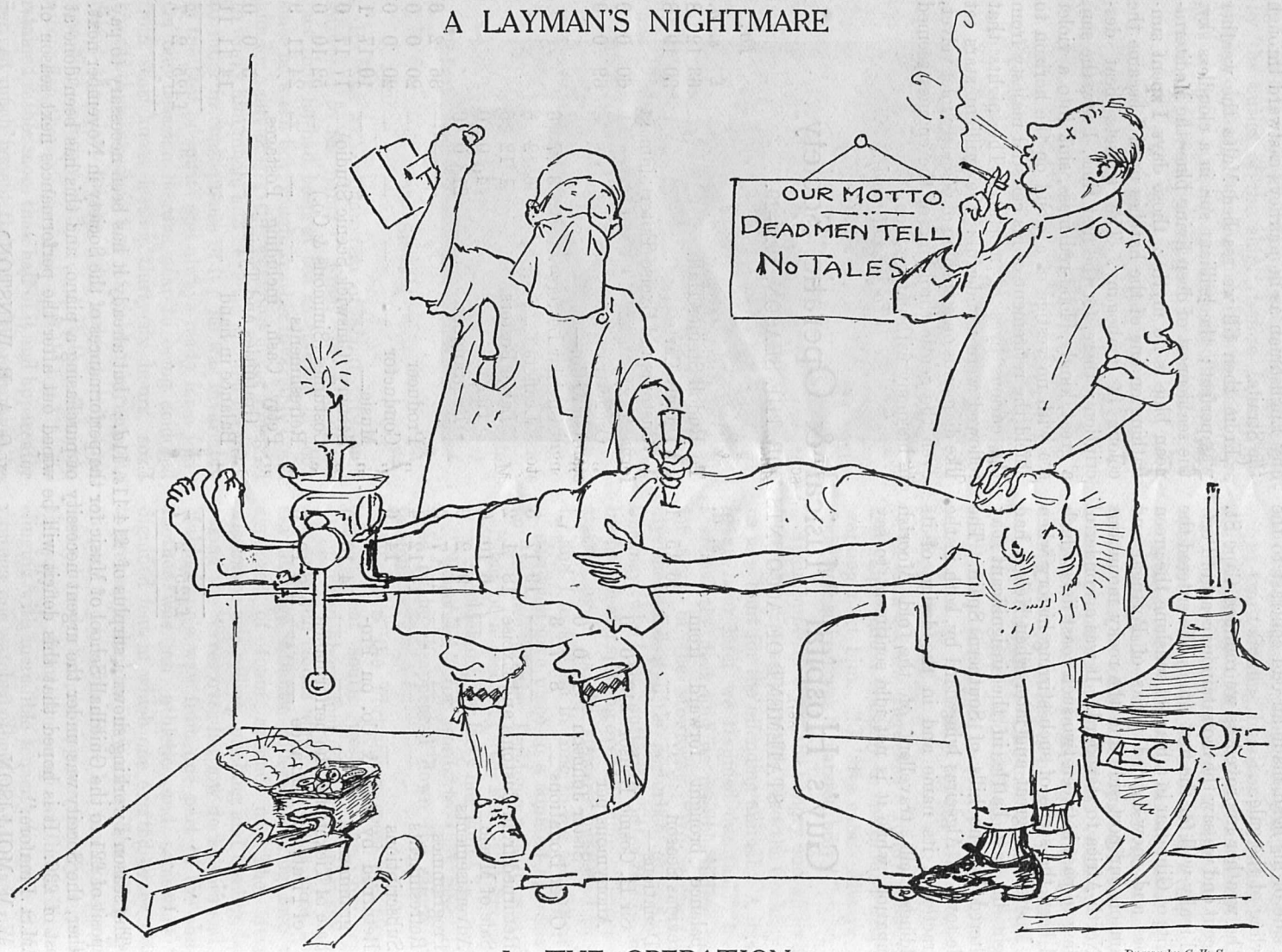
	£	s.	d.
To Rudolf Steiner Hall	63	12	8
„ D'Oyly Carte	30	19	8
„ Customs and Excise (Entertainment Tax)	60	0	0
„ Orchestra	69	0	0
„ Ash & Co.—			
Circular Letters 3 7 6			
Leaflets 6 2 6			
Large Posters 1 12 6			
Tickets 4 0 0			
Programmes 21 0 0			
	36	2	6
„ Producer	20	0	0
„ Conductor	20	0	0
„ Music	10	17	1
„ Scenery (Chiswick Scenic Studio)	17	17	0
„ Costumes (Simmons & Co.)	52	10	0
„ Refreshments	24	11	9
„ Petty Cash, including Postages, Gratuities and Typing	5	0	0
„ Balance in hand	14	11	11
	£425	2	7

The season's working shows a surplus of £14 11*s.* 11*d.*; but already it has been necessary to pay a deposit of £21 to the Guildhall School of Music for the performances of the Society in November next. Further, the Soceity was under the urgent necessity of purchasing a piano, and this has been done at a cost of £36. It is hoped that this deficit will be wiped out after the performances next season of "H.M.S. Pinafore."

W. M. MOLLISON,
Hon. Treasurer.

G. A. R. WINSTON,
G. G. ELLIS
Hon. Secretaries.

A LAYMAN'S NIGHTMARE



I.—THE OPERATION

Drawn by G.W.S.

Books for the Nurse

Elementary Hygiene for Nurses. By H. C. RUTHERFORD, M.D. Published by Messrs. J. & A. Churchill. *Price 5s.*

THIS book, now in its fourth edition, has been written in accordance with the Syllabus laid down for the final examination of the Australian Trained Nurses' Association. English standards, however, are adopted throughout.

With regard to our own State examinations some chapters contain more material than would actually be required, for instance, the lengthy, but always useful, chapter on Diabetic Dietary. We do not include this in our syllabus of hygiene *per se*.

Yet it will be of much assistance to examination candidates and it cannot fail to appeal to those nurses who are not actually in touch with a training school.

The attraction to students and even younger members of the medical profession is inevitable, particularly to those interested in public health work.

Much consideration has been afforded to foods, diets and the science of calometry. Authority here affirms that it is theoretically possible to dine for 2s. at an A.B.C. more advantageously than for a guinea at the Ritz.

Infectious diseases and the Infectious Disease Notification Act is dealt with adequately.

There is an extremely useful Appendix which includes tables of weights, measures, symbols, lotions, percentage solutions, etc.

Attention has been directed to health nursing (the course and duties), also Industrial and Child Welfare Nursing.

Theory in hygiene we have always regarded as a "stuffy" subject—paradoxically!—but this book ventilates our antagonism because of the clear printing, the lucidity of style and the simplicity of explanation admirably illustrated.

An ounce of prevention is worth a pound of cure ! Let us then procure this book, adopt its measures, and we shall have taken great strides to the ultimate abolition of hospitals and the medical profession.

The Nurses' Handbook of Hygiene. By L. E. H. WHITBY. Published by Messrs. Faber & Gwyer. *Price 4s. 6d.*

WE have here a second edition of Dr. Whitby's very useful Handbook of Hygiene. Certain alterations and additions (particularly on food), have been made, and for nurses who have little time for the larger volumes on Hygiene this Handbook will continue to be most helpful.

Anatomy and Physiology for Nurses By EVELYN C. PEARCE. Published by Messrs. Faber & Faber. *Price 4s. 6d.*

FOR many years nurses in training have needed a concise account of anatomy and physiology which could be relied on for its accuracy.

Miss Pearce, herself a sister tutor and examiner, has succeeded in presenting a book which is interesting and is not limited entirely to the General Nursing Council's Examination Syllabus, which it covers.

There are plenty of good diagrams. In subsequent editions probably they will be outlined more clearly, and a diagram of the blood circulation through the heart included instead of the somewhat misleading diagrammatic sketch of the circulation.

This inexpensive book will be welcomed, we are sure, as a suitable textbook in many training schools.

Anatomy and Physiology for Junior Nurses. By FELICIE NORTON. Published by Messrs. Faber & Gwyer. *Price 2s. 6d. net.*

MISS NORTON senses the need of nurses who are beginning their training, and in this book sets out in an easily assimilated form the rudiments of anatomy and physiology.

So often junior nurses find it difficult to understand the fuller text-books, and Miss Norton's work ought to be a great help to them as a stepping stone.

Materia Medica and Pharmacology for Nurses. By GWENDOLEN HINDES. Published by Messrs. Faber & Faber. *Price 4s. net.*

ALMOST useful, concise book on drugs and their administration, giving their effects, dosage and above all a very instructive chapter on poisons and their antidotes. It is to be recommended for nurses in training and as a book of reference later.

Preliminary Questions and Answers. By FELICIE NORTON, S.R.N. Published by Messrs. Faber & Gwyer. *Price 1s. 6d.*

THIS little book contains model answers to questions that have actually been set from time to time at the Preliminary State Examination in Nursing.

There are questions and answers in anatomy, physiology, hygiene and general nursing. It is a perfect guide as to the kind of answers the examiners expect. It can be well recommended to those nurses who are revising theory for their examination.

Tropical Nursing. By A. L. Gregg. Published by Messrs. Cassell & Co. *Price* 6*s.*

THIS is an invaluable handbook to any nurse who contemplates going abroad; as it encompasses those diseases not met with in most general trainings of this country.

Inexpensive, neatly bound in an insect-proof cover and conveniently carried in the pocket, it covers a wide field, dealing clearly with most tropical diseases likely to be encountered, without being too technical.

A book of this description has long been needed by the nursing unit.

Hospital Information, etc.

Notices

Pictures at R.C.P.

AN interesting illustrated article appeared in *The Connoisseur* of July, and is to be followed by one also in the August number, on the Historical Portraits owned by and housed in the Royal College of Physicians. The author, Mr. C. J. S. Thompson, who has written with illuminating grace on similar subjects before, gives first a brief outline of beginnings and then goes on to take each portrait in turn and deal with its merits. The pictures reproduced here in the text are seven in all, with a photograph also of Roubiliac's bust in marble of Sir Richard Mead.

The seven thus chosen represent: Thomas Wharton, by Van Dyck, or Cornelius Johnson; Andreas Vesalius, by Calcar (?); William Harvey, perhaps by Michael Wright; Sir Richard Mead, by Allan Ramsay, differing totally from the bust; John Radcliffe, by Sir Godfrey Kneller; William Croone, by Mary Beale; and a full-page plate of John Arbuthnot, by Charles Jervas. These reproductions do full credit to the originals.

W. B. K.

New Bottles for Old

Though the doctor's mixture may still be as old as the Pharmacopœia his bottles are changing. Their glass is different, their shape new and more convenient, while a screw-cap often replaces the cork. Behind all these changes is an extremely efficient organisation, known as the United Glass Bottle Manufacturers, Ltd., who set forth in the Progress Number of their official publication *The Bottle and Glass Container Bulletin*, a full account of the care taken to ensure the health and happiness of those employed in the making of this revolutionary glass ware. Their welfare programme, from the annual dinner and dance to an extensive pension scheme, seems to be as flawless as their bottles. They may be reasonably certain of an ever-increasing demand for their wares from a profession, which, however old-fashioned of itself, cannot but command the up-to-date in others.

Change of Address

L. Milner, M.R.C.S., L.R.C.P., 162, Mitchell Street, Pretoria, South Africa.

Papers by Guy's Men

F. N. Doubleday, L.D.S., M.R.C.S., L.R.C.P. The Surgical Removal of Teeth, *Brit. Dent. Jour.*, 1929, 1, 937.

H. W. Barber, F.R.C.P. Lecture I, Lettsomian Lectures on the Relationship of Dermatology to other Branches of Medicine, *Lancet*, 1929, ii, 363.

—— Lichen Planus with Nerve Distribution, *Proc. Roy. Soc. Med.*, 1929, xxii, 1391, Sect. Dermat., 33.

Ralph Thompson, Ch.M. Specimen of Stone from Bladder, *Ibid.*, 1382, Sect. Urology, 68.

Arthur F. Hurst, F.R.C.P. The Pathogenesis and Treatment of Asthma, *Practitioner*, 1929, cxxii, 4.

R. P. Rowlands, M.S., F.R.C.S. Hydronephrosis due to Obstruction of the Ureter by Abdominal Renal Blood Vessels, *Clin. Jour.*, 1929, lviii, 409.

Births

COUSER—On July 25th, 1929, at Yezd, E. Persia, to Francis Dora (née Birch) wife of H. G. Couser, Imperial Bank of Persia—a daughter.

HAMMOND-WILLIAMS—On August 20th, 1929, at 20, Mayfield Place, Eastbourne, to the wife of D. Hammond-Williams, L.D.S. Eng.—a daughter.

Eds. { E. T. C. / J.R.B.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLIII — *21st September* 1929 — *Number* 1074

PASSIM

THOUGH to many of us what should be a season of mists and mellow fruitfulness may mean nothing more than a renewed acquaintance with the London fog and an all-pervading odour of fresh hops, yet, even with the falling leaf, there is a stirring to fresh activities, an awakening from the languor of summer, a keen anticipation of the various joys that only winter can give. A colonnade notice board is suddenly covered with lists of those who plan great deeds in the football field, the Musical Society bursts into rehearsal, and fast as the leaves fall the peeling stem of the parent tree is plastered with a new foliage of handbills announcing the visit, on October 1st, of Sir Humphrey Rolleston, K.C.B., M.D., when he will open a new session of the Medical School, distribute prizes for the past year, and, at the same time, address the first meeting of the Physical Society on "Medical Societies as an Educational Factor." Thus, the year's decaying autumn, becomes for us a full-blooded spring-time ushered in with academic honours, and the life that had ebbed out of the place on holiday rapidly returns in a flood of fresh activity.

▭

IT is often alleged that statistics can be made to prove anything. We, however, firmly believe that those upon which Mr. G. F. Gibberd has based his "Contribution to the Study of the Maternal Death-Rate," published in last week's number of the *Lancet*, are a more than ordinarily reliable series for the purposes of such an enquiry. In this paper he points out that his conclusions are derived from the combined figures of in- and out-patients from the same small district, namely, the Guy's maternity "District," and that in such data there is maintained a true proportion between the two classes of practice. The analysis of 23,591 cases of women delivered between 1863 and 1875, and of 21,423 of women delivered between 1919 and 1928, shows that the modern practice of midwifery has reduced the death-rate per 1,000 from 4.4 to 1.03, a most encouraging result.

This improvement appears to be the direct result of the increased safety of surgical measures that followed upon the discoveries of Lister, which have not only rendered old practices safer still, but made possible Cæsarean section, perhaps the most dramatic of all operations. It is with the development of this branch of abdominal surgery that the obstetrician has become a surgical specialist rather than a physician, but, in spite of all the increase in surgical interference, the art of obstetrics still embraces a great deal of that masterly inactivity which its name implies.

▭

WE are asked to announce that arrangements have now been completed for the next Biennial Dinner. This is to be held at the Connaught Rooms, on the evening of Friday, October 18th. Sir Maurice Craig has consented to preside, and a full list of vice-chairmen is given elsewhere in this number of the GAZETTE. The Secretary, Mr. E. C. Hughes, is anxious that all acceptances should be sent to him at 17, Wimpole Street, as soon as possible. By early reply and early arrival on the evening in question, intending diners will be able to assist a great deal in the organisation of what is invariably a highly successful and very representative gathering of old Guy's men.

▭

AT the moment of writing, the Rugger XV look like having a gruelling time in their opening match against Catford Bridge, at Honor Oak Park. The ground cannot possibly be otherwise than stony hard after the recent drought, and there may be the additional discomfort of a thermometer soaring far above its usual limits for this time of

the year. But this encounter with traditional rivals is invariably regarded as a trial match, and played in that spirit, so that the possibility of other than minor injuries is definitely minimised. We should like to offer Mr. T. O. Robinson our best wishes for a highly successful season.

THE College resident has probably been in hot water quite often. He has much less often been without it, and consequently finds that condition all the more unbearable. The purgation of some ten years accumulation of calcareous deposit from the College hot-water system, even by means so drastic as hydrochloric acid, could not possibly have left the inside of that vibrant structure more tender than the chin of one who has shaved in cold water, yet the return to normal conditions after two days' deprivation has noticeably weakened the general resolve to grow a beard and be done with it.

DENTAL caries has long made way in our mouths for gold, or, at times, a mild amalgam, but now it seems that the invasion is to progress still further :—

> "Among the exhibitors at the conference of the German Society of Dental Surgeons, at Cologne, are the Krupp firm, who are showing artificial teeth manufacturered from rustless steel."—Reuter.

If, in the near future, the tragedy of the broken denture is rendered impossible, then the iron-jawed hero of romantic fiction will, at least, become a metallic reality.

Heart Attacks

Lecture II, delivered at Guy's Hospital, July 26th, 1929, by Dr. J. M. H. Campbell, F.R.C.P.

GENTLEMEN,—Continuing my last lecture, I shall take to-day the attacks which are even more interesting, because they depend on changes in the heart. I took the functional attacks first, as they are so much more common that, if you are seeing someone with "heart attacks," it is quite likely you will find no heart disease, but these purely reflex disturbances.

In all the cases I am taking to-day, the change is primarily in the heart itself and in the majority it is associated with organic heart disease, though sometimes you get these changes of rhythm in an apparently healthy heart. Familiarity with the different sorts of known heart attacks is what helps most in diagnosis. It is difficult to put down any general rule which will help ; you cannot diagnose a heart attack as due to organic disease ; you can only diagnose it as belonging to one of these types, which I shall take separately, giving you examples of each.

PAROXYSMAL TACHYCARDIA.

The first is paroxysmal tachycardia, which is the commonest of the irregularities met with in paroxysms, and also the least serious. It is easy to know you are dealing with this, if the patient tells you that his palpitation starts at 10.30 and finishes at 3.30, or gives the exact date when he had it and the number of hours it lasted. An ordinary patient with such an attack will say that suddenly—generally not connected with taking exercise nor with emotion—the heart goes off at a quick rate, and palpitation is the main thing of which complaint is made. Sometimes when the heart is not very rapid, palpitation is the only thing of which the patient complains and the attack does not upset him very much. In other cases, when the heart is going faster, he feels faint and unable to do anything but rest until it is over. It is uncommon for him to lose consciousness.

The rate of the heart in these attacks generally varies from 160 to 200, so if the rate is much over 200 or below 160, it is probably something else. There will, however, be a few who have slower or faster rates. The attacks may only last a few minutes ; they rarely last longer than ten days. An attack of paroxysmal tachycardia is actually a series of extra-systoles, so that you cannot draw any real distinction between the patient, who has three extra-systoles running without a normal heart beat, and the real paroxysmal tachycardia. But a patient who has two or three extra-systoles following each other, is more closely allied to the patient with single extra-systoles, and it is when there is a longer run lasting at least for some minutes that you get the associated symptoms.

The questions which will be asked are : What shall the patient do to stop them ? Are they dangerous ? Will they recur ? We have no definite drug which is a cure for paroxysmal tachycardia ; there are certain things—which I shall mention later—that will stop certain attacks. If the attacks are uncommon and last only a few minutes, it is undesirable to keep the patient regularly on medicine for months in order to stop an occasional attack which may last an hour or

two when it comes. You may find various ways of stopping an attack, such as pressure on the vagus, sometimes a very deep or sudden inspiration or expiration, or pressure on the vagus after a deep inspiration; but only a certain number of people find these methods successful. If a patient has had an attack stopped in these ways they will generally stop other attacks in his case. In a few others the attacks are stopped by vomiting, or by a tight abdominal binder, or by adopting some posture. Some attacks are started by a certain position; one man will get them if he is bending down, as when weeding the garden; but, generally, there is no apparent reason for the attack starting; it comes on without any obvious cause.

The next question as to whether they are dangerous, you can answer confidently. I have seen only one patient without gross heart disease who has died in an attack, and there were indications that it was an exceptional case, for it was a boy of 15, who had attacks of increasing length and frequency ever since he was a few years old. The other cases in which there is danger are where your clinical examination shows other signs of heart disease which are dangerous in themselves, or if the attacks last for several days. But if you find nothing else in connection with the heart except these attacks, you can feel that there is little danger; there is only the inconvenience at the time the patient has them, so that their degree of importance depends on whether they are rare or frequent.

As to whether they are likely to recur, if a patient has one attack and you see him after the first attack, there is a chance that he may never have another. If you do not see him until he has had five or six attacks at more or less regular intervals, the probability is that he will go on in the same way. I saw a man, aged 65, who certainly had been having these attacks for thirty years; he was as fit as most people of his age, and was still carrying on his business. So, though the attacks recur in that way, they do not, of themselves, make the prognosis worse, apart from the seriousness of any associated condition.

Are you likely to find anything associated with these attacks? It is certainly a good reason for a complete physical examination of the heart, but you will find the majority of patients without other evidence of heart disease. In the minority who have structural heart disease the prognosis is that of their heart condition. If there is no other heart disease, I think you can reasonably look on these attacks as an inconvenience rather than as disease.

If the attacks are sufficiently frequent to be a serious trouble to the patient, digitalis, in full doses, will sometimes stop them. I have one patient who has been almost without attacks for three years on quinidine, and when that drug is stopped she relapses. In other cases, you find some secondary cause for the attacks, *e.g.*, the treatment of indigestion will often stop the attacks, or in nervous people bromides may be sufficient. But no one can tell which is more likely to be effective in any particular case. So if the attacks are not very frequent and you do not think they inconvenience the patient very much, it is better to relieve him of his anxiety about the individual attack than to put him on a regular course of medicine which afterwards may be found not to have done good.

The first patient, who was sent to see me by Dr. G. C. Millis, comes into the group of those who have no other heart disease. She is 34 years of age, and there is no abnormality in the physical examination. She has led a normal life, is married, and has four children. Her own description is that she has been rather short of breath for some years, and liable to giddiness and headaches. She also has attacks of palpitation, which are quite different; in these she has sudden discomfort over her heart, which starts beating very quickly, so that she can hardly move. The last attack had been six weeks ago, and started at nine in the morning and lasted until five o'clock in the afternoon, when it stopped suddenly.

This history is so different from those I was talking of last week, that it shows we are dealing with some real change in the heart during the attack. She had these attacks for seventeen years. At first, they lasted only an hour or two, and came on about every three months, so that they were not of much inconvenience. Since her pregnancies started, however, they became rather more frequent, and lasted longer. Their starting and their stopping have always been sudden. I have this record of her attacks during the last two years.

1927—	
March	10 hours.
April	14 ,,
June	11 ,,
August	16 ,,
November	22 ,,
1928—	
February	17 ,,
April	15 ,,
May	13 ,,
May	6 ,,
June	18 ,,
July	14 ,,
December	14 ,,
1929—	
January	11 ,,
February	13 ,,

If a patient has an attack once in three months, for instance, she will probably go on having them in that way. Some have attacks lasting ten or fifteen minutes, others have attacks lasting some hours, or even days. This patient has attacks about every second month, most of them lasting from 10 to 16 hours.

I have seen her in three attacks; she has come up to hospital during them, and in one I was able to stop the attack by digital pressure on the vagus while she was taking a deep expiration; but I did not succeed in stopping the other two, in which I saw her. As she is well between attacks, we have not given her medicines in big doses, and the various things which have been tried have not made much difference. In spite of the long history, no one examining this patient between attacks could say there was anything abnormal about her. I think she will probably live to normal old age, but will go on having these attacks.

Her heart rate during the attacks is about 230, which is unusually fast, and also illustrates how much people can do with such a heart rate; because the first time I saw her in an attack her pulse-rate was 230, and though she looked ill and was slightly cyanosed, she was able to walk about. (*See* Figs. 1 and 2.)

I have taken her because she is a patient with paroxysmal tachycardia whom I have seen and who has a fairly detailed history, also because she

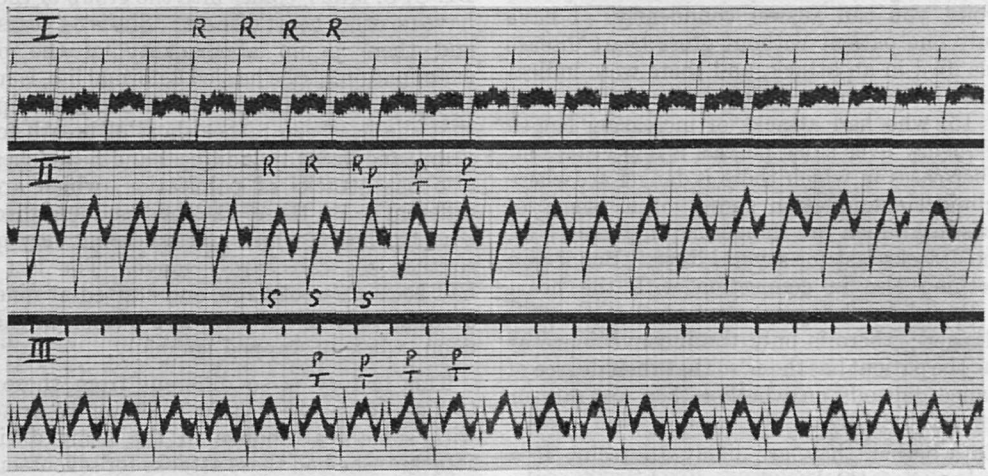


Fig. 1.—Paroxysmal Tachycardia at an unusually rapid rate, viz., 232. Pulsus alternans is well shown in Leads II and III, but at this rapid rate it has not the usual significance.

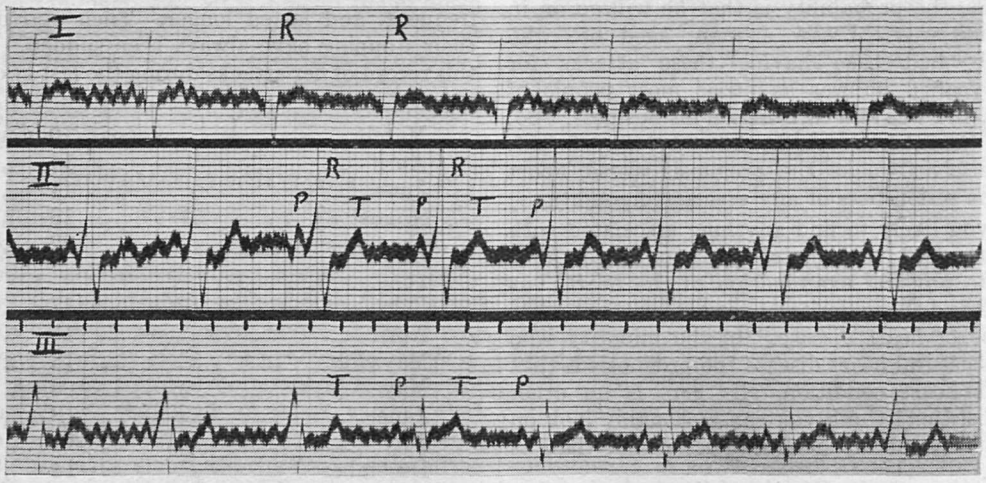


Fig. 2.—Normal Rhythm in the same patient a few hours later. Rate 72. The time marker in this and the the other figures shows fifths and twenty-fifths of each second; the former have been specially marked in Lead III.

is typical in every way, except that the rate is rather more rapid than the average one. They are common in young people, but commoner in people about middle age. When they occur in older people they are more likely to be associated with structural heart disease.

PAROXYSMAL AURICULAR FIBRILLATION.

The next condition is paroxysmal fibrillation; it is much more common than is supposed, and leads to attacks very like paroxysmal tachycardia. It is more serious in that it is more often associated with other signs of heart disease, and that, in a good proportion of cases, sooner or later, it may change from paroxysmal, to established fibrillation.

If I give you a series of cases to illustrate the different possibilities, they will show you the general picture as well as anything else.

The first man had an attack, which was like most cases of paroxysmal tachycardia in the absence of other signs of heart disease, but unlike it in being a single isolated attack. He was a rather athletic doctor, aged 30. Two days before, he had taken some vigorous exercise, and was as fit as ever. An hour after lunch, on the day in question, he went to catch a train to play golf. He missed the train, which annoyed him a good deal, and suddenly noticed his heart starting off at a great rate. This lasted for 48 hours, so that there was time for a complete examination when the electrocardiogram showed that he had fibrillation. It stopped without any particular treatment. That was eight years ago, and he had never had another attack. He still shows nothing abnormal about his heart, and is a very fit man, who takes as much exercise as before.

This is an unusual type of paroxysmal fibrillation in which there is no association with heart disease. And it is unusual in the fact that it appears to have had an emotional cause rather than being entirely spontaneous. But I think paroxysmal fibrillation is more influenced by nervous control than paroxysmal tachycardia, and it is, therefore, easier to see a patient during an attack. It shows you can have paroxysmal fibrillation, apparently, without significance. It is not certain that in the future this man will never have another attack, but he has been eight years without, and the only change he has made—which may have had something to do with it,—is that he was smoking heavily some months before the attack, though not more heavily than many people do; he was smoking about four ounces a week, instead of the one or two ounces which was his usual allowance.

The next patient illustrates a different type in the way that her attacks occurred over a long period; she is also different because the cause was obvious, and has ceased to operate. She was a woman, aged 38, with mild exophthalmic goitre for eight years which had been worse for the last six months. Then she began to have these attacks when, she said, her heart seemed suddenly to leap over, and went on beating rapidly and irregularly for eight or nine hours. It started suddenly, without warning, but she could not say clearly when it came to an end. We got electro-cardiographic records of several attacks, which showed fibrillation. She had obvious hyperthyroidism when she was first seen, and it is of particular interest that as her hyperthyroidism got less, her attacks diminished. In the first thirteen months she was observed she had about 50 attacks, lasting eight or nine hours each, that is, at the rate of nearly one a week. The next six months she had them every three weeks, lasting for six hours, and the following year she had an attack every two months, of about the same duration. It was much the same the year after that.

In 1925, that is to say, after four years of these attacks, they ceased, and her thyroid became normal; the pulse was under 90, having been 120 or 110 during most of the time. So this is a spontaneous cure of the exophthalmic goitre, spontaneous in the sense that she had had no operation and no X-ray treatment. I saw her a few weeks ago, and she has now been four years without an attack. Just ten months after the heart attacks stopped, her first baby was born. She had been married all the time, and the child-bearing followed immediately on her improvement in health. She is interesting as showing another cause of fibrillation, its occurrence in patients with exophthalmic goitre. It also shows how frequent these attacks can be in some people.

The next case I have chosen for comparison with one I spoke of last week, a young woman who had curious attacks after her sister had died suddenly. This patient gives one of the possible explanations. Aged 17, she had no history of rheumatic fever or heart trouble, except that when about 12 years old she often had palpitation after drill at school. At 16 she fainted, and it was of rather long duration for an ordinary attack. When she came to hospital she was found to have frequent extra-systoles, with a rapidly beating heart, and she was thought to have slight mitral stenosis, though not of such a degree as would have led to particular trouble in itself. While in hospital, she had several attacks of palpitation and tachycardia, which did not make her unconscious; in some there was fibrillation, in others tachycardia with frequent extra-systoles. She was under observation for a year, having attacks every three or four weeks,

and not getting much better, though she was hardly breathless and almost free from symptoms between her attacks. Then one day, she was found dead in bed. There was no *post-mortem* examination, but the most likely explanation is that in the fatal attack she had ventricular, as well as auricular fibrillation.

It is the occasional possibility of such a thing which adds to the danger of paroxysmal fibrillation. Recently, with Dr. John Parkinson, I have abstracted the notes of 200 cases with paroxysmal fibrillation; and I am also indebted to him for the earlier notes about one of the cases quoted here. To show how uncommon such a fatal result is, of these 200 patients of whom I have full notes, many of whom have been followed for ten years and have had dozens of attacks in that period, this is one of the only two patients in whom there was sudden death in an attack.

It is an extraordinary coincidence that like the patient of whom I told you last week, the sister of this girl has also had heart attacks after her sister's death, but they are paroxysmal fibrillation. Even in her case, it is very unlikely that there will be a sudden fatality, because this is so rare, but I am too strong a believer in heredity not to feel that there is an additional risk in her case. Like her sister she may have a very slight degree of mitral stenosis, but it is in itself unimportant, and while she has been under observation during two years, she has only had one attack, which was paroxysmal fibrillation. The doctor in charge would not allow her to continue nursing, but she has now gone back to other work, and has kept well.

Those cases—one associated with no heart disease, one with exophthalmic goitre, and one with mitral stenosis—give you a reasonable picture of the common etiology, except that there is no elderly patient with arteriosclerosis or high blood pressure. Most often it is associated with rheumatic heart disease, particularly in young people, and it is in such cases that it is most likely to lead to fibrillation of a permanent character. If there is no other obvious heart disease it is not very likely to become permanent. If there is exophthalmic goitre, you can treat this; generally it is a reason for adopting surgical treatment. If there is no obvious heart disease, the possibility of too much alcohol or too much tobacco being used, should not be overlooked. It is the rheumatic cases which have a rather bad prognosis as regards permanent fibrillation, in fact, paroxysms of fibrillation are common before the irregular rhythm becomes established.

This is illustrated by the following patient—a girl of 23, who had rheumatic fever and chorea at the age of five. When 16 she began to have attacks of fibrillation which came on at any time and lasted about two hours, though sometimes they stopped if she could make herself sick. At first, she had them each three months, but when she was 20 they became worse, until she had two or three a week. When you find attacks of increasing frequency and longer duration, you should give a guarded prognosis, for fibrillation is likely to become permanent; and so it was with her, she then developed heart failure, with gross œdema of the legs. The more you go into the history of patients with fibrillation, the more often you will find they had short attacks of it before its permanent onset.

ATTACKS DURING THE COURSE OF ESTABLISHED FIBRILLATION.

There are one or two things I want to say about the possibility of heart attacks in ordinary established fibrillation. People do not always realise how much the rate changes in fibrillation under reflex influences; in the next patient her heart rate varied so much with emotional excitement, and such, that she was sent to me as probable paroxysmal tachycardia, for her fibrillation on big doses of digitalis had been controlled so as to produce, at ordinary times, a pulse which was slow and almost regular. She herself, as sometimes happens with patients who have learned a good deal about a prolonged illness, laughed about the attacks, and said it was when she got excited that her heart beat faster. When seen for the first time, the rate was 160, but quickly settled down to 80; she was very uncomfortable, with much palpitation during the 160 period, but there was no change in the mechanism of the heart, for on both occasions she had fibrillation.

Fainting attacks and loss of consciousness are uncommon in paroxysmal tachycardia. With fibrillation they are more common. A man, aged 74, when I saw him three years ago, had a perfectly regular pulse. His blood pressure was 200 systolic, 100 diastolic; but there was nothing else abnormal, except slight anginal pain and dyspnœa. In 1928, while out walking, he suddenly felt "funny," and fell down unconscious. On recovering, he was found to have a very irregular pulse, due to fibrillation, which has continued since. This is an uncommon onset of fibrillation, in which the blood supply at the start was so inadequate that he became unconscious.

We were talking about sudden death in these attacks, but the patient who has established auricular fibrillation occasionally dies suddenly. Most often this is due to embolism, but sometimes I think the cause is ventricular fibrillation. A patient with a goitre ever since she was a girl lived until she was 66. She had attacks of fibrillation for 13 years before I saw her, not very

frequently, but becoming more so as time went on, till the fibrillation became permanent. She had some dyspnœa and slight œdema, but was able to get about and led a fairly easy life on digitalis. When fibrillation had been established for six months, she walked upstairs one day and was found dead on the bed a few minutes later. Probably, ventricular fibrillation was the cause, for there was no evidence of embolism.

PAROXYSMAL AURICULAR FLUTTER.

The next thing is flutter occurring in paroxysms. It is less common, but more serious than paroxysmal fibrillation.

The particular cases I want to mention are, first, a man aged 38 who, when he was seen, had hemiplegia from a cerebral hæmorrhage, due to high blood pressure; 250 mm. systolic, 140 diastolic. He had made a fairly good recovery when—unwisely, I think—he was advised to have some teeth extracted. Six hours after his pulse, which had been 90, went up to 160, and for the next two days it remained quite regular at that level. The electro-cardiogram showed that the auricle was going at twice that rate, namely, 320 a minute, and he had two-to-one heart block. (*See* Fig. 3.) This particular attack in itself was not serious, but often attacks of flutter are; and still more often are they associated with heart conditions for which there is a serious prognosis. This patient recovered from his hemiplegia, but the blood pressure remained high and he died from another cerebral hæmorrhage six months later.

The other patient with flutter is of a very unusual type; and, though the prognosis is much better the attacks are likely to recur. This was an infant 27 days old, who was under Dr. Cameron last April. His was a normal birth, and no particular comment was made until one evening he was found to be rather cold and blue out in the garden; perhaps he had been left out there later than usual. When the doctor came, he found there was a very rapid heart, so that it was difficult to count its rate. The electro-cardiogram showed a rate of 300, and it was very unusual because the ventricle was responding at that rate. (*See* Fig. 4.) When that happens with an adult, as it sometimes does in flutter, he is nearly always unconscious—indeed, it is one of the possible causes of long and serious attacks of unconsciousness in adults. It shows what a tremendous amount a small child can stand, because, except for some cyanosis, this child showed very little, until after two or three days, the liver gradually got bigger, showing failure slowly developing. After a few doses of digitalis that attack stopped suddenly, and the pulse dropped to 100, and the liver shrank to the normal size. There was no obvious congenital disease of the heart in that child, but, judging from other cases, he will have other attacks. At present, after four months, the child is well.

Fig. 3.—Paroxysmal Auricular Flutter in a man with high blood pressure. There is generally 2 : 1 heart block (auricle 320, ventricle 160), but the beginning of Lead I shows one longer interval with 3 : 1 block.

HEART-BLOCK AND STOKES-ADAMS ATTACKS.

There are many patients with heart block, and relatively few with Stokes-Adams attacks. When there is complete block in the auriculo-ventricular bundle, the ventricle takes on its own idiopathic rhythm, which is generally about 20 to 30 per minute, though exceptionally it may be as fast

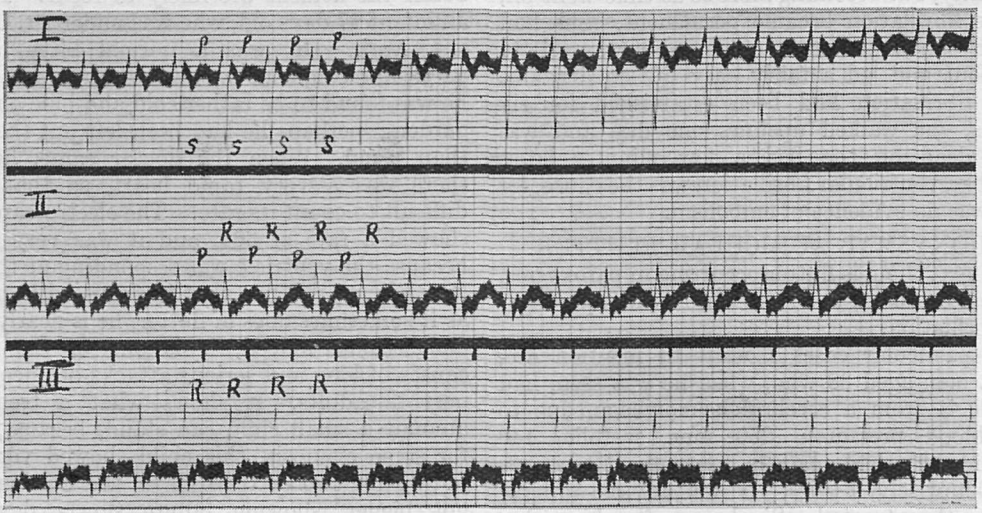


Fig. 4.—Paroxysmal Auricular Flutter in a baby one month old. The ventricle is responding at the same rate as the auricle, viz., 300, which is very unusual. The extreme right ventricular preponderance (large S in I, large R in III) is due to patient's age.

as 50. Giddiness and faintness are common in many cases of heart block because of the poor blood supply to the brain; but this is generally enough to prevent there being any more severe symptoms.

Stokes-Adams attacks may occur when there is complete heart block, since the ventricle is less practised at maintaining its own rhythm and there may be pauses for some seconds. They are more frequent when conduction down the A.-V. bundle is not completely interrupted, but varies from time to time under reflex stimulation or as the result of changes in its blood supply. Then with 2 : 1 heart block there may be no symptoms, but when conduction is less efficient and there is complete block, the ventricle may not start its own rhythm for some seconds, during which time there is such an inadequate blood supply to the brain as to lead to the Stokes-Adams attacks.

Generally, these closely simulate epileptic attacks —sometimes consciousness is lost for so long that it seems that the patient is dying, and occasionally this actually takes place.

The patient I have chosen as a representative case was a seaman, aged 56. For several years he had suffered from attacks which had been diagnosed as epilepsy, when he became unconscious and fell down, often hurting himself. He seemed quite well in between his attacks, but treatment with bromides had not improved his condition. Dr. L. Forman saw him during one attack, and found there was an interval of some seconds without any pulse, which was then only 20 for some little time.

Generally, between the attacks, he had a regular pulse rate of 48, and an electro-cardiogram showed that this was due to 2 : 1 heart block. (*See* Fig. 5.) He had greatly thickened arteries and a blood pressure of 170 to 110. Sometimes these attacks can be greatly improved with adrenalin, occasionally with atropine.

Another patient, a tailor, aged 53, who had always had good health, suddenly fell down and cut his head when leaving his shop. After this he was in his usual health for a year, when he began to have frequent attacks of unconsciousness. Between the attacks his pulse was sometimes 24, due to complete block, and sometimes 38, due to 2 : 1 block, as when I first saw him with Dr. Bannounah, who had diagnosed Stokes-Adams attacks. A year before, when he had what must have been his first attack, nothing unusualy had been noticed about his pulse by his previous medical attendant. He was better for two days, but then his attacks became almost continuous, and for about fifteen minutes he was without any pulse or spontaneous breathing, I should have thought he was dead : though the auricle could still be heard beating. After this, he had half an hour with normal respiration and a regular pulse of either 28 or 40, and seemed to be improving, though he did not regain consciousness. Then, however, another long attack ended fatally in spite of artificial respiration and the injection of adrenalin into his heart muscle.

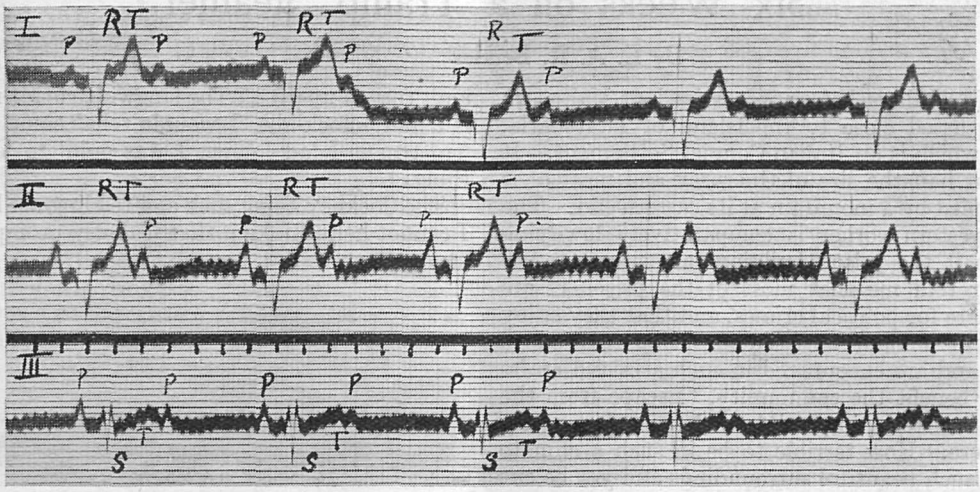


Fig. 5.—2 : 1 Heart Block in a man with arteriosclerosis who had Stokes-Adams attacks. Six months later he developed complete heart block, but the attacks continued.

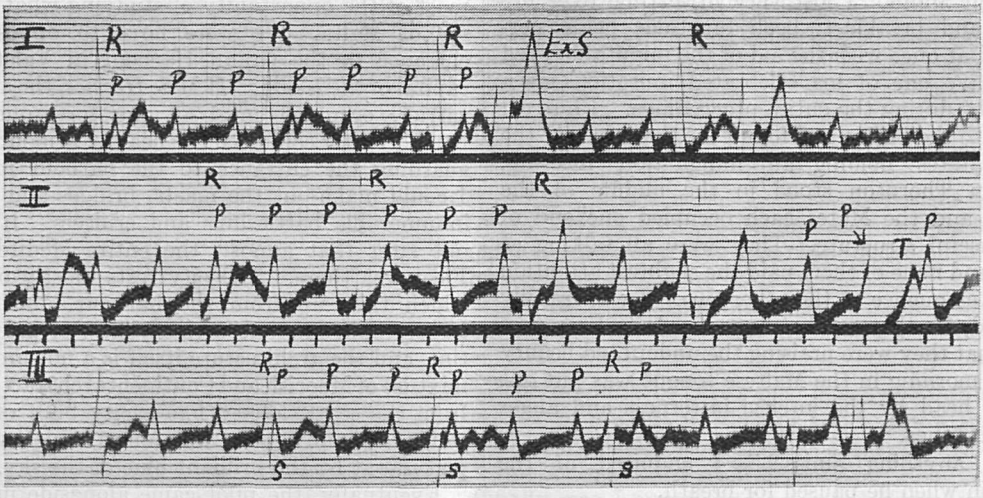


Fig. 6.—Complete Heart Block, probably congenital, in a boy aged 12. The auricle is beating about three times as fast as the ventricle ; there are also extra-systoles arising from both ventricles.

Recently, I saw a much less common type of attack in a boy of 12, who was sent to see me by Dr. Nelson Hicks. When two years old he had a fit on the sands and went stiff and blue. These attacks were very frequent during the next two years ; but then became less frequent though they lasted longer, up to 20 minutes. I am sure that this period was made up of many shorter attacks quickly following each other. Between times he was perfectly well ; generally his pulse was regular at 48, but sometimes there were frequent extra-systoles. An electro-cardiogram showed that he had complete heart block. (*See* Fig. 6.) Judging from the history, this was almost certainly congenital and he had real Stokes-Adams attacks in spite of his youth.

These are four of the most important types of heart attacks. Paroxysmal tachycardia and paroxysmal fibrillation are the most common and can generally be diagnosed on the history alone. If you keep these in mind and remember the salient features of each, you will recognise them in an increasing number of patients. Without an exact diagnosis about what supposed heart attacks really are, you can give no reasonable treatment, and are equally at a loss for prognosis, since they may be trivial or may be of the most serious import.

Six Weeks on a Tramp Steamer

By E. A. R. Berkley *(Continued)*

A FEW days before we arrived at Malta, we passed close to the Island of Pantellaria, which is an Italian Convict Settlement. It is about half the size of Guernsey and most of it is occupied by a mountain at its eastern end. The north-western corner is comparatively low-lying and on it the prison buildings are situate. The Skipper told me that most of the prisoners are sent there for political crimes, and that they enjoy a certain amount of freedom, being allowed to marry and are encouraged in such arts and crafts as will benefit the community. Escape from the island is utterly impossible and ships but rarely call there. How terrible to be in such a climate and in such beautiful surroundings and yet be cut off from all but one's fellow prisoners.

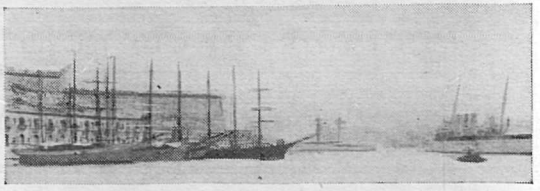
A day or so later, the Steward called me at 5.30 a.m. with a cup of tea and the news that we were off Malta. I lost very little time over my toilet and breakfast, both functions being performed at once with the aid of the inimitable Fred who gave one of his celebrated imitations of a cat fight during the entire proceedings. I hurried up on to the bridge and found the Captain and the two Mates holding an indignation meeting. Captain Thornton stood in the middle of the bridge and the Mates each occupied one end of that useful structure. They were all talking at once, and none of them paid the slightest attention to the eloquence of the other two. I was frankly puzzled, for they used strange words and my first idea that they were praising the undoubted beauty of the morning in the Maltese tongue was put out of my head by the intense bitterness and anger of their tones.

"Is anything amiss?" I enquired of the Captain when he paused for breath.

He looked at me for a second, turned from red to green, gave vent to a strangled cry, and tottering down the companion like one stricken with palsy, disappeared into the chart-room, where I heard him continuing his speech from the point at which I had interrupted him. Not wishing to disturb the Mates, who were apparently addressing their remarks to heaven, I entered the wheel-house where I found the Cockney on watch. I repeated my question and after the few preliminary expectorations which invariably prefaced my informant's observations, he made answer :—

"Lor' lumme! Anyfink wrong? I should say so! The 'Ole Man' wirelessed the Pilots last night givin' the toime of our arrival and we've bin 'ove to 'ere for over a hour an' the dirty dawg ain't turned up yit! The langwidge of them three is a fair knock-aht, I wouldn't ha' come on this 'ere trip if I 'ad known I was goin' to 'ear sich things!"

The Cockney being such a gifted linguist himself, I cannot help thinking that jealousy prompted his last remark.



Grand Harbour, Valetta

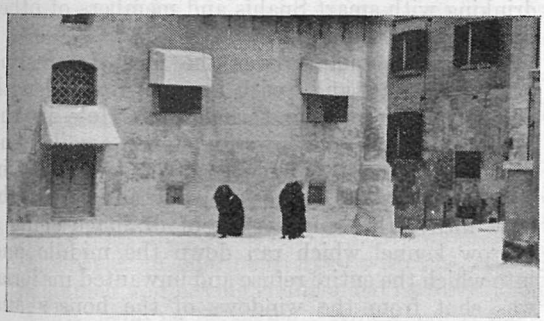
While we were waiting for the pilot, I made the most of the opportunity of studying what I could see of Malta. We were hove to opposite the entrance to the Grand Harbour in Valetta, the capital of the island. H.M.S. *Hermes,* the airplane-carrier, occupied most of the foreground, but behind that I could see the heavily armoured forts guarding the entrance to the harbour in which I could make out the masts, bridges and guns of innumerable battleships and cruisers. It turned out later that almost the entire Mediterranean Fleet was there. The city rests mostly on a hill which rises up from the harbour, and is very largely built of stone with a yellow or pale orange tint, and the architecture itself is a not unpleasing mixture of Moorish and Continental characteristics; from the sea it looked like a city built of golden sand with many spires and domes, which were well picked out by the brilliant blue of the sky.

Eventually, the pilot came alongside in a boat constructed rather after the style of a Venetian gondola. After a decidedly cool reception from the Skipper, he proceeded to take us in. We berthed at a quay almost alongside the *Queen Elizabeth* and the *Barham,* both gigantic battleships which made us feel rather insignificant and dirty, especially as our brilliant new paint was shortly reduced to a uniform black from the unloading of our cargo. Our agents came aboard, followed by a motley and singularly dirty crowd of bumboatmen (who will sell you anything from a goldfish to a Ford car and swindle you in the process), water purveyors, beggars, laundrymen, sellers of canaries, and other villains whose trade was more questionable. The canary sellers are the most plausible swindlers for they "tell the

tale" well and sell you with a most charming smile a bird corresponding to our English sparrow, but cunningly disguised by the judicious addition of yellow paint to their ordinarily drab plumage.

A quaint race the Maltese. The true aristocracy of the island trace their descent to the early Phœnician traders and are a very proud stock. The remainder are a mixture of Arab plus any European country you care to name; crafty villains and specious liars are these, but all good Catholics nevertheless. They speak three languages in Malta, English, Italian and Maltese. I put Maltese last because it is spoken least.

It came as a surprise to me that Malta was under the sway of the Roman Church, for I had imagined, in my ignorance, that they were either Protestant or heathen. I had also supposed that the people were governed by British Authorities. It is not so. They are ruled by the priests and monks, to whom they bow and scrape and whose word is law. There is a village near Valetta called Musta; in it is a very famous church which boasts of having the third largest dome in the world. The church took over thirty years to build and is magnificent within and without; it is reputed to contain treasures in the form of jewels, plate, pictures, vestments and images to the value of many hundreds of thousands of pounds (I was told the actual figure was well over a million), and yet the inhabitants of the village who attend its daily services and who contribute to its funds out of their hard-earned and meagre wages are poverty-stricken, and most of them have never known the joys of a proper meal in the whole of their lives. I went to a service there and noted that the priests were "fat and well-liking."



A Street in Malta

Valetta is a city of song. Every shop and every home has its cages of canaries; it is no uncommon sight to see as many as half a dozen such cages with from two to four birds in each hung up on the wall of a house. The singing of these birds fills the air from morning to night. The buildings are golden, the streets are white and the colouring of dress and decorations are bright so that the glare from the midday sun is almost unbelievable. The eyes ache and a rapid investment in a pair of sunglasses is the first consideration of the unprepared. The streets are good, but very narrow, with the exception of a few by-pass roads which have recently been constructed surrounding the city. The shops are excellent and English in type; their prices being very reasonable, the cost of living in Malta is very low compared with home. The hotels are not palatial, but rather similar to a Parisian second-class hotel; the ones in the suburbs are more Arab in architecture. I stayed in one which was a low building in the form of a square, the centre of which was occupied by a courtyard; in this was a fountain surrounded by palms and cactus. A wooden stair led to a balcony from which opened the bedrooms. It only needed the addition of suitably clad Eastern maidens extracting seductive music from curiously shaped instruments of many strings to convert the spot into a scene from the "Arabian Nights."

The country round Valetta is almost entirely given over to agriculture and vineyards (they produce an uncommonly fine wine rather like hock at eighteenpence the bottle), but there are vast areas of waste land given over to shrubs and cactus plants, some of which reach an enormous size. The coast is the best feature, there being many bays of all sizes in which there is wonderful golden sand and bathing in them is delightful, for the sea is clear and very warm. The bay in which St. Paul was shipwrecked is remarkable for its depth and rocks and for the statue of the apostle pointing out to sea.

The ubiquity of Guy's men is a byword, and it will be of interest to some of you to know that I met Charles Eagan out there. He is, or was, the "Doc." on board H.M.S. *Warspite*, and right royally was I entertained on board that majestic ship. He is very popular ashore and afloat, and I was told that no social event was complete without him. I was entertained twice on the battleship, and being an accredited guest I was permitted to board her by the quarter-deck where I was not a little overawed and startled by the ceremony (especially on the first occasion when I was totally unprepared) which accompanied my arrivals to and departures from that sacred structure; at the top of the ladder over the ship's side, the guard formed in two ranks with the Officer of the Watch, complete with sword, telescope and frock-coat, standing at one end; I had to pass between their ranks, and this I did feeling very much like a small boy who has done something naughty; then, with a suddenness and

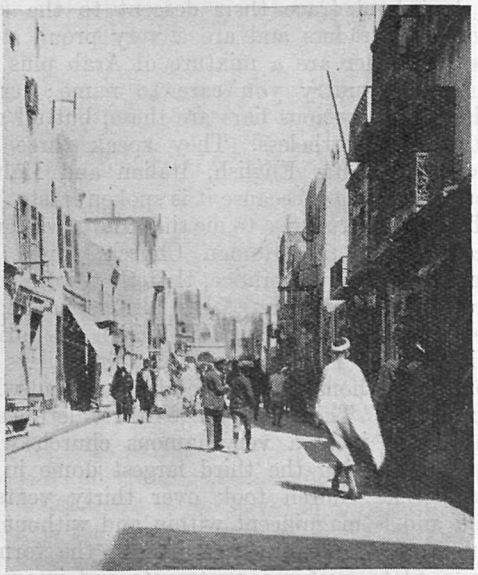
unanimity which scared me out of my wits, they saluted. I made a stupendous effort to appear as if I were used to this kind of thing from my infancy, but which only resulted in a sickly smirk; I raised my hat to them and fled. I met Eagan ashore later.

"About this quarter-deck business," I said, "Why am I so honoured?"

"Honoured by blowed!" he replied, "They only do that to make you pay due respect to the Flag!"

After five very happy days in the island, we sailed for Sfax on the North African Coast, where we were to load phosphate for Cork. Not having any cargo on board we were travelling as what is known as light ship, and anything more uncomfortable it is exceedingly difficult to imagine. The trouble arises from the fact that the propeller is three parts out of the water, and that causes the ship to vibrate like some gigantic tuning-fork. Nothing approaching comfort could be found in any part of her; I tried everywhere from the boiler-room to the masthead, but it made not the slightest difference, I trembled like a jelly. We were all the same, and, at first, it was funny to see everyone going about as if they had an ague, but the best of jokes cannot last for long, and I was heartily glad that our passage to Sfax only lasted twenty-four hours. The monotony was relieved for a couple of hours in the afternoon by the presence of two sharks which followed and played round the ship; I amused myself by trying to shoot them with a revolver, for they skimmed along with their dorsal fins above the water and their great bodies plainly visible underneath. Needless to say, the result was so many rounds of wasted ammunition.

We berthed in Sfax in the evening, and as we were there only forty-eight hours, I did not see so much of it as I wished. It is an Arab town in French Tunisia and is exceedingly valuable for the vast quantities of phosphate that it exports. The town itself is divisible into an inner circle and an outer; the inner is the old original Arab town and the outer is the French settlement. They are separated from each other by a high wall which is pierced by four or five gates, the main one, connecting the fashionable part of the French quarter with the Arab, is termed the Hole in the Wall. The main boulevard is a magnificent, wide road with great palms on either side and down the middle; it was under the shade of these trees that the Arabs were wont to squat and take their siesta in the heat of the day. Large cafés, typically French in construction, predominated in the French quarter, and in the evening a curious and exceedingly interesting crowd assembled there. A few French civilians sat side by side with swarthy Arabs; big handsome men, for the most part, were these, but their natural dignity was somewhat modified by their weakness for mixing



Rue de la Republique, leading to the Hole in the Wall

European articles of clothing with their native costumes; they wore their flowing robes open in front to display highly coloured, cheap cotton shirts, collars and ties, and they usually affected red, blue, green or purple sock suspenders worn outside their baggy breeches. Mingled with these would be groups of soldiers, and one could distinguish officers of the famous Foreign Legion drinking with smart Spahis and members of other native regiments.

The native quarter was the most interesting part of the place and I wish I could write at length about it. On passing through the Hole in the Wall an almost overpowering stench assailed the nostrils, but one became accustomed to this in time. The streets are very narrow and indescribably filthy, the only system of drainage being a narrow kennel which ran down the middle and into which the entire refuse and unwanted material was shot from the windows of the houses and shops, the inhabitants of which showing a blissful disregard for the people who happened to be passing underneath. The cafés were mere holes in the buildings, and in them the Arabs squatted and sprawled on the floor or on benches what time they consumed treacly coffee or more potent drinks and listened to the weird noises produced by the enormous brass trumpeted gramophones without which no café was complete.

The transactions in the native market have to be seen to be believed. I will take, as an example, Ali Baba buying some meat. He went up to what I thought was a fly stall, for I could see nothing but the biggest collection of flies I have ever seen.

"I want some meat," said Ali, after the usual exchange of salaams had been duly carried out.

"Allow me to exhibit before your beautiful eyes this entrancing sirloin of unparalleled quality," replied the butcher with a grandiloquent wave of the hand, which had the effect of raising a dense swarm of buzzing flies above his head and thereby revealing a large, juicy, purple mass upon the stall.

"We will now discuss the doubtless exorbitant price of this piece of offal!" said Ali, squatting down and prodding the morsel with his forefinger.

They discussed the price at some length and with great dignity. Eventually they came to terms and Ali paid the money, tied a length of string round the meat without wrapping it up, slung it over his shoulder and stalked off, followed by a cloud of flies which rapidly settled upon his purchase.

Having spent an hour in the market watching episodes such as I have just described and others almost equally extraordinary, we passed on to the Bazaar. I must add that the party consisted of the Second Engineer, a friend of his, half French, half Arab, who kept a small café on the outskirts of the town, and myself, the friend acting as guide and interpreter. The bazaar was a sort of ramshackle Burlington Arcade with brightly coloured blinds and all the glass windows removed; a high sloping floor ran up to the back of the "shops" (save the mark) and on it sat the merchant, tailor-wise, surrounded by his goods. I was very impressed by some tablecloths of very fine native workmanship, so I decided to make a purchase. I approached our guide in the matter and he expressed himself willing to act as intermediary, but first, with many winks and gesticulations, he told me certain things calculated to benefit me in the driving of the bargain.

We accordingly moved to the desired stall in which sat an enormous Arab with one eye. He salaamed and having commended us to the care of Allah, bade us be seated. Now there is none of that unseemly haste in the bazaar that there is in the market; whereas, in the latter one can buy an article in the short space of twenty minutes or half-an-hour, one can take the entire morning buying a similar article in the former. It took me just under the hour to buy my tablecloth, and that, I believe, is a record. We started off by drinking treacly coffee, which, contrary to expectations, I found to be quite pleasant, and then the first quarter of an hour was spent in the exchange of courtesies and compliments customary of such occasions.

"How is your stomach?" said the merchant.

"Fine! How is yours?" I replied.

"Allah is great and he has bestowed upon me digestive organs of superb quality. In his greatness also he has caused two mighty races to live upon the world, the Arabs and the English, and all other men are as curs compared with them . . ." He continued at great length on this theme, each sentence being faithfully translated into a mixture of French and English by our guide.

At last we descended to the sordid matter of business, and assuming an expression of profound unconcern, I selected a tablecloth and told him that of all his collection of rubbish this article displeased me least.

"How much?" I enquired.

"Four hundred and fifty francs," he replied.

"Offer him fifty."

The merchant showed neither resentment nor surprise, but commenced a lengthy dissertation on the weather, finishing with an offer of three hundred francs.

Following those lines the conversation went on for another half hour and we eventually came to terms at one hundred francs.

"Peace be upon thy house!" said the merchant.

"And upon thine also!" and so we left him salaaming deeply.

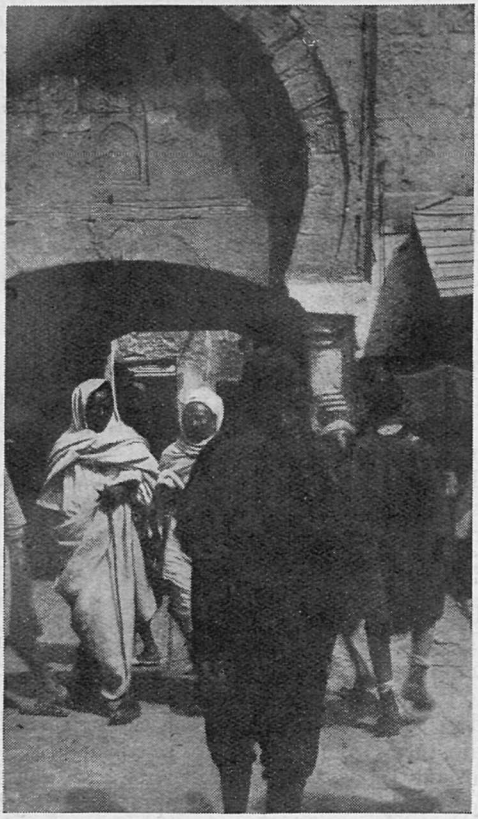
Next we passed through the Rue des Forgerons, where every house is occupied by a blacksmith, and in which the din is indescribable, to one of the old gates called the Bab Diwan through which the main road from the desert leads into the town. Through this gate a constant stream was passing; enormously fat Arabs perched upon incredibly small donkeys, veiled women, shuffing beggars and tiny children.

It was with great reluctance that we returned to the ship, for the time of sailing was drawing near.

The homeward-bound voyage to Cork started in excellent weather, and we were deluded into the belief that we were in for a hot and lazy passage to Gibraltar at least. Thirty-six hours after leaving Sfax, however, we were plunged with great suddenness into a violent head-on gale, and the *Ariadne Alexandra* became distinctly Albatrossiform in her behaviour; she plunged her bows into the waves and then proceeded to get rid of the water by the simple expedient of rolling from side to side; squalls of rain accompanied by a shrieking wind buffeted us at frequent intervals, and it took us four days and nights to cover two hundred miles. Any form of amusement was out of the question, and meals were reduced to a juggling feat. It blew itself out eventually, and we steamed along to Gibraltar on a course parallel

to the glorious mountainous coast of North Africa, covering about two hundred miles a day.

We had just passed the Rock and I was on the bridge chatting to the Second Mate, who was on watch, when he pointed out a great black body swimming porpoise-wise along side us.



The Bab Diwan Gate Sfax

"That's a whale," he remarked, "we'll have some more bad weather when we round St. Vincent."

I promptly left the fellow to his evil thoughts and retired to the Engineer's quarters for consolation. The wireless operator was there and I told him what the Mate had said.

"He's quite right," said Sparks, "we had a gale warning half-an-hour ago!"

That evening the fun started, and we had not one gale but succession of gales each seeming worse than the one before, all the way from St. Vincent to Queenstown. We stood well out in the Atlantic, and although the rollers were gigantic the ship rode them better than the shorter seas nearer the land. Dense sea mists complicated matters off the south coast of Ireland, and we had to reduce our speed from four knots to two. By a merciful act of Providence, the mist just raised for three seconds and we narrowly avoided piling up on the rocks of Ballycotton; it then descended again like a curtain, and we saw no more land until four hours later when the wreck of the liner *Celtic* loomed up dead ahead off the mouth of Queenstown Harbour. We were hove to off the harbour for another four hours because the pilots said (by wireless) that it was too rough for them to come out and take us in. They took us in just as we had made up our minds to clear off out to sea for the night, and we were so grateful for being saved from this that we forgot to swear at them for their initial delay. The pilot told us that they had taken in a ship the day before that had been so battered that she had had two men killed, three injured and two life boats smashed besides other structural damage.

We berthed in Cork at last, and there I was paid off, and with great reluctance I said good-bye to the good friends I had made in those happy six weeks.

Nitrous Oxide Anæsthesia

By Ronald Jarman, D.S.C., M.R.C.S., L.R.C.P.

IT is hoped that the following hints may be of service to those who are making their first essays in the giving of nitrous oxide anæsthetics.

Gas is not difficult to give, nevertheless, skill in this, as in most things, is obtained only by much practice.

It is the safest of all anæsthetics, although the small percentage of fatalities is, no doubt, due to the necessary brevity of anæsthesia in dental cases. These form the great majority of gas administrations. In giving it, the bag is half filled with gas and the mask adjusted over the face of the patient; a high pressure in the bag causes gas to be forced into the patient's face, and this always upsets or frightens him considerably, the expiratory valve is opened and a steady stream of gas is allowed to flow in, care being taken that the pressure is not too great at first, though increased pressure helps to induce a difficult patient. The anæsthetist must not for one instant cease to watch the respirations or the colour of the patient. The latter should be controlled by giving a breath

of air or oxygen from time to time as required, to prevent cyanosis. Respirations, after quickening, will presently settle down to deep and regular breathing (mechanical), with or without stertor. The conjunctival reflex goes first and is followed by the corneal reflex. Absence of the corneal reflex indicates a greater depth of anæsthesia than is normally necessary in dental cases. The eyes roll about, finally pointing upwards or downward. Jactitation may set in; this is normally due to anoxæmia.

The signs of anæsthesia (which are rarely all present together) are, deep mechanical breathing, stertor, absence of one or both reflexes, eyes fixed and pointing up or down. Cyanosis is not a sign of anæsthesia. It should not appear in gas anæsthesia. Long continued cyanosis is always dangerous.

The mandible should be held forward to prevent the tongue from falling back and blocking the respiratory passage. This is the most common cause of stoppage of breathing; should cessation of respiration occur, pull the mandible forward, then the tongue. In a dental case, make sure that a tooth is not obstructing the airway. If these measures are not successful in inducing the patient to breathe, place him at once on the floor, pull out the tongue with tongue forceps and commence artificial respiration, administering oxygen or oxygen and carbon dioxide, meanwhile, if necessary, inject a cardiac stimulant.

Syncope may be the cause of cessation of breathing. In this case, the patient's colour is pale turning to ashen grey. An overdose of gas may be another cause, the patient becoming deeply cyanosed and goes into tremor. The patient may faint whilst going under or recovering from the anæsthetic. The treatment is the same in all these cases.

An epileptic will usually contrive to have a fit while under the gas. Precautions should be taken to prevent his injuring himself or biting his tongue.

Certain patients are difficult to anæsthetise. It is nearly impossible to anæsthetise a chronic alcoholic with gas, by the use of gas and oxygen it is possible to get him into a lighter stage of anæsthesia hardly past the stage of analgesia, but which is sufficiently deep enough for dental operations. The plethoric type should be handled carefully. He is likely to become suddenly cyanosed and to stop breathing. Here again, gas and oxygen is indicated. Gas is contra-indicated for patients with large glandular swellings in the neck. The shell-shocked patient is apt to become very violent, the very nervous patient is likely to be very difficult. He will scream and struggle and possibly stop breathing. A preliminary dose of bromide is useful. The patient with a heart lesion should not be kept under gas for longer than a minute and should never be allowed to become cyanosed.

Gas may be administered in all stages of pregnancy. It is important that the patient should never suffer from lack of oxygen and should not be allowed to come round before the operation is quite completed.

The chief disadvantage of gas anæsthesia for young children is the short duration of the anæsthesia, this is why ethyl chloride is administered as it prolongs anæsthesia. If the child is big enough, and his confidence can be gained, the nasal method of gas should be adopted, and one can get quite a long anæsthetic if great care is used. For the very young child, the ordinary face piece is used, small size, and plenty of air should be given during induction. It is sometimes a good plan to anæsthetise the child and then allow him to come partially round and then put him under again, this usually prolongs the time of anæsthesia.

In dental cases, if more than half a minute is required for the operation, the nasal method should be used. This can be used with or without oxygen. By the nasal method anæsthesia up to seven minutes can be obtained, or with oxygen even longer. Gas and oxygen is the best method of all, but it is the most difficult to give and considerable amount of practice is necessary to obtain good results.

The following are a few short hints which are applicable to all cases:—

(1) Have complete silence during the induction, this is most important as patients react to extraneous sounds whilst being induced by gas more than any other anæsthetic.

(2) Make every effort to gain the patients confidence before commencing the anæsthetic.

(3) Have all emergency drugs ready and apparatus ready to hand.

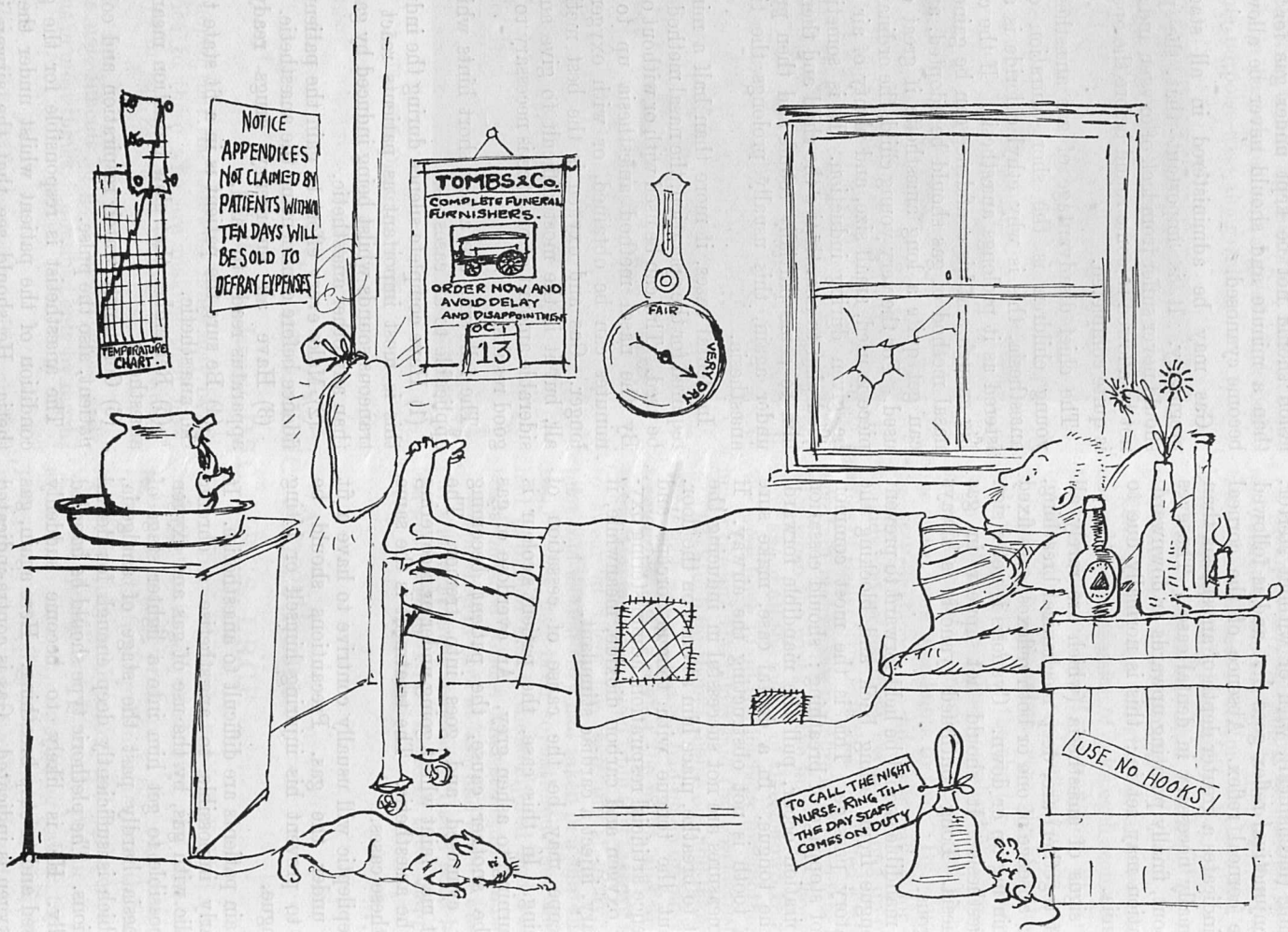
(4) Be sure the patient is in a fit state to have the anæsthetic.

(5) Remember that slow induction means long anæsthesia.

(6) Constantly watch respiration and colour of patient, also the pulse.

The anæsthetist is responsible for the general condition of the patient whilst under the anæsthetic. He should see that the airway is kept clear. He should keep the mandible well forward to prevent the jaw falling back, protect the eyes, mouth and face and see that the patient does not

A LAYMAN'S NIGHTMARE



II.—THE AFTERMATH

injure himself whilst coming round from the anæsthetic. He should satisfy himself that no foreign body is left in the mouth or the nose. The operation finished, he should take steps to see that the patient does not inhale or swallow any blood. He should remember that accidents happen even with a comparatively safe anæsthetic like gas, and should be constantly on the alert to prevent them or to take prompt measures if they should occur. Each anæsthetic should be treated individually and not as one of many.

I should like to thank Mr. E. A. Lloyd, L.D.S., for his kind assistance in helping me to prepare these few notes.

Three Dental Communications

I—AN UNUSUAL CORRELATION MANDIBLE AND MAXILLA

MR. PRESIDENT AND GENTLEMEN,—These models of a child aged six are interesting in that the development of the mandible bears no relation to that of the maxilla.

The mandible when viewed alone suggests that it might belong to a child aged three to four, with the central temporary incisors spacing nicely and the laterals about to show the spacing from the canines. However, the first permanent molars are seen to be present but just unerupted.

The maxilla again, seen alone, presents an arch that would do credit to an adult, particularly in the premolar region. The temporary incisors are not spaced at all, but are arranged nearly straight across the front of the face. The temporary molars are large and well-formed, being followed by the first permanent molars, well erupted.

Articulation is practically non-existent, as the mandibular teeth occlude entirely within the maxillary arch.

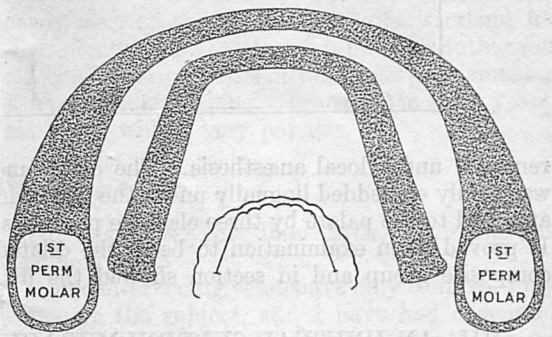
Collier deals with this type of irregularity as follows: "The pathology of these cases is obscure. The irregularity may be due to over development of the maxilla or under-development of the mandible." But here it seems obvious that we have both peculiarities manifest.

In seeking a possible cause for this irregularity the following facts are known: The parents are healthy. Both have distal occlusion; in the mother accompanied by superior protrusion and in the father by a leaning back of the upper incisors similar to that of the temporary incisors of the child.

The elder sister is a bad case of distal occlusion known under Angle's classification as Class II.

The child was born in India and is not known to have had any injury either at birth or after. The nasal function is good, and the child was breast fed, both facts encouraging maxillary development. The tongue, which Dr. Sim Wallace considers to be such an important factor, in modifying the correlation of the upper and lower teeth, in this case, is normal for the mandible to which it is attached, and can in no way account for the inter-molar width in the maxilla.

When eating naturally the child "bolts" her food, but when told to masticate, takes a very long time about it. The appearance of the face when the mouth is closed is unfortunate, as the mandible nearly seems to disappear altogether.



The suggested treatment is as follows:—

Allow the lower first permanent molars to erupt and then try expanding the mandible with a simple expansion plate.

If this alone is done it will only increase the size of the upper as there is already that tendency. It, therefore, seems necessary to construct some sort of cap for the lower temporary molars to bring the jaws into articulation, and at a later date a little protraction of the *upper* permanent incisors should help, and, if necessary, extraction of an upper premolar on each side to reduce the size of the arch.

D. S. C.

II—A DILATED COMPOSITE ODONTOME

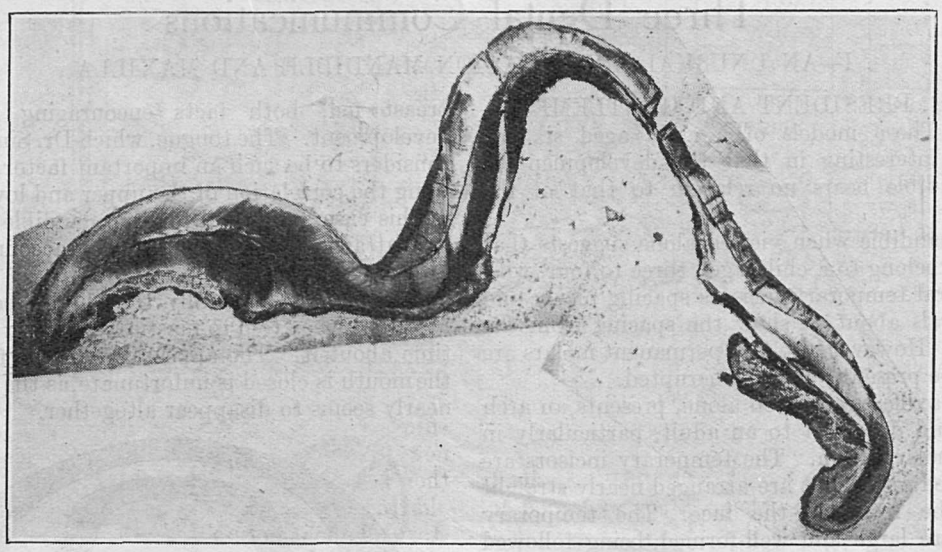
This tumour occurred in a female patient aged 18. She presented herself for treatment as food was packing in under the odontome and causing discomfort.

Clinically a calcified mass of tissue was seen which partially enveloped the erupting right upper canine, but was distinct from it, as movement could

be felt by levering an instrument between the two. In colour it had the dusky hue of a dead tooth.

The patient has a congenital absence of upper lateral incisors, and radiographs for their presence elsewhere or further abnormalities in the maxilla proved negative.

The upper right temporary canine was still *in situ*, and this, together with the tumour were



removed under local anæsthesia. The odontome was firmly embedded lingually under the gum and attached to the palate by three clawlike processes. It proved upon examination to be of the dilated composite group and in section showed the distribution of enamel dentine and cementum that can be seen in the accompanying micro-photograph. The structure is destroyed in parts by osteoclasts as active absorption was taking place.

The patient reports a history of dental irregularities in other members of her family, and she brought a sister to Guy's who showed congenital absence of enamel and several teeth together with wide interdental spaces.

I am indebted to Mr. Pritchard for the micro-photograph.

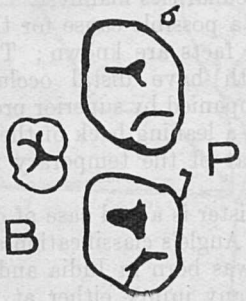
A. R. S.

III—AN UNUSUAL SUPERNUMERARY TOOTH IN THE UPPER MOLAR REGION

The patient, a girl aged 22, had an unusual tooth (B) in the upper right molar region on the buccal side between the first and second molars; there being a distinct gap (P) between these molars. The supernumerary was extracted under local anæsthesia and came away very easily.

Dr. Bolk of Amsterdam, has collected and classified a large number of molar supernumeraries which occur on the buccal side between either the first and second or second and third molars in the maxilla and he has called them para-molars. This then would be an anterior para-molar, of which Dr. Bolk has but two examples (1914). He states, however, that the para-molar has at best only two rudimentary cusps and is invariably single rooted, while this tooth has four well-developed cusps and a suggestion of two roots.

It is a miniature four-cusped tooth and is very carious.



X-rays showed the absence of a right upper eight and the presence of an unerupted third molar on the side opposite to the supernumerary.

There is no family history of any dental abnormality.

Is this, then, a unique para-molar or a displaced third molar? The facts seem to point to the former.

A. G. T.

Two Novels

"*Jipping Street.*" By KATHLEEN WOODWARD. Published by Messrs. Longmans, Green & Co., London, 1928, pp. 151. *Price* 6*s.*

ALL who love Guy's and the district in which we work, should read this autobiography of the timid elfin girl from Maze Pond, who grew from earning five shillings a week, making "gentlemen's collars," to reading Gibbon and Thomas à Kempis in her Bermondsey bedroom.

There are many vivid sketches of her friends and neighbours and their sufferings; and in the background a kindly picture of the hospital which obtruded only too often into their lives. Of her mother she writes, "Two afternoons a week she visited the hospital on the ancient site at the end of Jipping Street, where she waited hours for a few minutes' attendance from the overworked doctors, and brought away fresh bandages and ointments for her dreadful wounds."

And there is a picture of the Park, with its starlings and plane trees, which, we hope, will still survive in spite of the attacks made on them by the authorities.

No character is portrayed more sympathetically than Lil "who laughed more than was good for her, and used to rouge her face with the moistened red cover of a dictionary."

If her hardships and sufferings lead to a somewhat bitter view of life, there was much in the old Bermondsey to justify this, but there is just as much of courage and humour to colour the other side of the picture.

Those Guy's men who do not know Bermondsey well—even the smells of its streets and the subtle distinctions between Devon Buildings and Wolsely Buildings—miss something of their time at Guy's. This book will give them one part of the story, and if they are interested "Across the Bridges" will give them another.

He and Ski. A novel by DAWSON GREATREX. Published by Herbert Jenkins. *Price* 7*s.* 6*d.*

A STORY of the Winter Sports, of the everlasting snows, of the breeze straight off the ice, an amusing story—a most amusing story—but to have to review it in our September Heat Wave! No wonder many a critic has attacks of the spleen.

Yet in spite of this disparity of temperatures, or perhaps on account of it, this tale is very enjoyable. It is a story of the misadventures of a newly-married couple who go to Switzerland for their honeymoon. Without doubt, the author (an old Guy's man) has the gift of writing an amusing story all about nothing. Probably, in a few years, his books will be very popular.

Correspondence

Liver Abscess

To the Editor of the GAZETTE.

SIR,—In the light of Major Hance's contribution to this correspondence in the GAZETTE of 27th July, I should be glad if you would publish extracts from my letter of 27th June, to show that I have not changed my views, as my friend, C. H. Fagge, seems still unconvinced that this is the method of choice in dealing with liver abscess.

I agree with Major Hance that classical liver abscess is a relatively uncommon condition among Europeans to-day, nearly all my cases have been Indians; and could quote many obscure cases of fever which were not obviously amœbic in origin and which have yielded dramatically to Emetine. Some cases of coli-bacilluria are undoubtedly dysenteric in origin, the bacillus coli leaking into the blood stream through the base of an ulcer in the bowel and so to the kidneys.

Yours, etc.,
C. H. REINHOLD,
Lt.-Colonel, I.M.S.

33, Rajpur Road, Delhi.

[In his letter of June 27th, 1929, Lt.-Col. Reinhold said:—

"The intervening years have only confirmed my views on the subject, and I have had dozens of cases since which have re-acted to this treatment alone, in fact, I have never done an open operation for liver abscess in the last 17 years.

Re-aspiration is frequently necessary, and, in one case, I aspirated five times in the course of six weeks, and removed in all, more than 100 ounces of pus; the man came in a skeleton and put on more than two stone in weight before he left our hands in robust health."—EDITOR.]

Biennial Dinner

The following is a list of those who have promised to be Vice-Chairmen at the Dinner to be held on October 18th, next:—J. H. Gibson (1882), Robley Browne (1887), T. G. Stevens (1890), G. S. Hovenden (1894), G. A. Ticehurst (1904), A. F. W. Denning (1908), E. L. Elliott (1910), G. Marshall (1911), L. R. Broster (1914), R. B. P. Lansdown (1919), R. S. Chambers (1923), F. D. Howitt (1925), C. L. Worthington (1925), The President of the Residents.

Hospital Information, etc.

Pass List

CONJOINT BOARD

July, 1929

PRE-MEDICAL EXAMINATION

Chemistry and Physics

†T. E. Carr.
J. H. Thompson.
†J. C. Wallis.
*J. F. Pitt-Payne.
†R. J. Cowling.
P. G. Sparg.
W. A. Jones.
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†D. Lennie.
†H. P. de Costobodie.
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L. B. Holmes.
E. O. Clough.
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*J. M. Alexander.
*M. H. J. Simpson.
*R. G. Chapman.
†L. Merrill.
†F. I. S. Copley.
†S. W. N. Turner.

*Chemistry only. †Physics only.

FIRST EXAMINATION

PART I

Anatomy and Physiology

E. J. Stubbs.
H. V. D. Iles.
J. W. Mansie.
H. P. Russell.
*F. Crowther.
*T. Fichardt.
*E. A. Mayston.
*J. Kunovsky.
*T. P. Binns.
†J. F. O'Malley.
M. A. Parthasarathy.
*E. E. Evans.
†C. G. P. Bowker.

*Anatomy only. †Physiology only.

PART II

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J. R. S. Sharp.
J. S. Lane.
A. Segil.
B. S. Lange.
D. H. Klugman.
T. F. Davies.
A. C. Hauptfleisch.
A. J. D. Lewis.
W. M. Smith.
W. W. Parry.
C. A. Rumball.
F. S. Krusin.
H. O. Lyne.

FINAL EXAMINATION

Pathology

O. Ive.
F. W. Chippendale.

Medicine

*A. N. Jones.
*P. D. B. Spence.
*H. H. Kenshole.
*H. B. A. R. Densham.
*W. J. Ferguson.
G. G. Cameron.
K. S. Keele.
G. J. Clarke.
*J. M. Hulett.
*R. A. Nash.

Surgery

*H. H. Kenshole.
*W. J. Ferguson.
L. Gabbe.
V. W. L. Wells.
A. Eckford.
*R. A. Nash.
*S. D. McLean.
*P. M. F. Bishop.
*R. L. Frost.
*K. S. Fitch.
J. R. F. Popplewell.

Midwifery

*W. J. Ferguson.
B. T. Squires.
I. B. Morris.
*S. D. McClean.
*W. J. Cotton.
L. K. Robson.
T. G. Robinson.
F. H. Stevenson.
C. Skinner.
L. D. Pringle.
F. W. Chippendale.
B. R. Medlycott.
P. V. Reading.

SOCIETY OF APOTHECARIES

August, 1929

Surgery, Medicine, Forensic Medicine and Midwifery

*J. M. Lees.

Midwifery

C. Hortop.

*Has now completed the examination.

Change of Address

J. L. Lean, Surg. Lt.-Comdr., H.M.S. *Vernon*, Portsmouth.

M. F. Hopson, Surg. Lt.-Comdr. (D.) R.N., H.M.S. *Rodney*, c/o G.P.O., London.

Notice

ASTLEY COOPER STUDENTSHIP.

THE Studentship, which, under the authority of the Charity Commissioners, is maintained by the Physicians and Surgeons of Guy's Hospital, as Trustees of the Astley Cooper Prize Fund, is now vacant.

The student, who is called the "Astley Cooper Assistant to the Curator of the Gordon Museum," will be elected in the first place for a period ending in July, 1930, but will then be eligible for re-election for three years.

The present value of the Studentship is about £150 per annum with an additional sum of £50 for expenses.

In accordance with the terms of Sir Astley Cooper's will, the Studentship shall not at any time be awarded to any member of the Staff of Guy's or St. Thomas's Hospital, nor to anyone related by blood or affinity to them.

Particulars regarding the Studentship can be obtained from Mr. Philip Turner, M.S., Guy's Hospital, London, S.E.1, to whom applications for the post should be addressed on or before October 7th, 1929.

Births

HARRIS—On August 30th, 1929, at Fay Gate, Chelmsford, to Eileen (née Wildsmith) the wife of H. A. H. Harris, F.R.C.S.Eng.—a daughter.

MARSHALL—On September 7th, 1929, at The Manor House, Goudhurst, Kent, to Kit, the wife of R. Prynne Marshall, M.R.C.S., L.R.C.P.—a son.

Marriage

WESTLAKE—BROWN.—On September 9th, at the Wesleyan Church, Deal, by the Rev. J. Havelock Thompson, Henry John William Jennings Westlake, B.Sc., M.R.C.S., L.R.C.P., only son of Lt.-Comdr. and Mrs. J. H. Westlake, of 1, Victoria Road, Deal, to Evelyn Cresdee, only daughter of Mr. H. G. Brown, Solicitor, and Mrs. Brown, of Melsonby, Grange Road, Deal.

Death

SKELTON—On September 6th, 1929, Dr. W. B. Skelton, aged 69 years.

EDS. { E. T. C. / J.B.B.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

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PASSIM

FOR more than a hundred new men the two entrance lists, included in this issue of the *Gazette* quietly record an event of enormous personal importance. We hasten to congratulate them on their choice of a profession and, at the same time, to offer them a hearty welcome on joining a Medical or Dental School associated with the name of Thomas Guy. They will find in the following pages much good advice freely given by those best qualified to provide it, and, in addition, a general survey of hospital activities that is, we trust, something more than a mere prospectus.

We have also kept in mind those about to make the momentous journey across the Park from School to Wards, a journey not now fraught with such a sudden change from the milder academic atmosphere to a more exacting clinical climate, but still quite abrupt enough to form a definite shock to an intellectual system used to books rather than to the human being.

As well as leaving the good advice entirely to others, we are avoiding any attempt to soften those rude blows inevitably showered by a fresh environment upon the sensitive shyness of a stranger. The hospital in general will certainly appear on the surface far too busy to greet the newcomer with other than a passing and utterly benevolent curiosity; his greatest sacrilege, say, of taking a seat at the table of the mighty in the College Dining Room, will, in all probability, be so quietly ignored that he will be in danger of continually repeating the offence; within a week, he will have formed a circle of acquaintance among those of his own year sufficient to banish all immediate loneliness, while inside the same space of time the slightest enterprise will gain for him a place in some team or club where he will meet people from all corners of the hospital. After that, and with but a moderate amount of luck, all will be plain and very pleasant sailing.

While, then, denying ourselves the doubtful pleasure of preaching the usual sermon, we may, perhaps, be permitted to envy the new man his unquestionable good fortune. He has before him half-a-dozen of the best years of his life, and they are to be spent in a community that will offer him unrivalled opportunities in all directions. Biology and physiology cannot fail to mould his personal philosophy into something worth while; anatomy will test his intellectual endurance to the limit, and subject his memory to the first of several incredible distensions, while, finally, an intensely practical clinical training, combining the classical with the scientific, will broaden his general outlook until he may emerge upon the world as that highly respected educational phenomenon—the doctor. If parallel with this tremendous process, he has no time for other pursuits we shall be mightily deceived in his quality, and whether he finds in the front row of the First XV scrum or the back row of the Musical Society chorus the relaxation most suited to his taste, he cannot fail to benefit thereby.

Preparation for the ready assumption of responsibility is the keynote of the Guy's training, and if in the pages following this brief welcome there is encompassed but the slightest encouragement to that end, our many contributors will not have written in vain.

It is always a stimulating experience to listen to a great man, and one that we, at Guy's, have the opportunity of enjoying only too rarely, the latest occasion being on Tuesday, 1st October, when, at the official opening of the Winter Session, 1929–30, combined with the first meeting of the Physical Society, Sir Humphry Rolleston, Regius Professor of Physic, Cambridge, gave an address on "Medical Societies as Educational Factors." In stressing the valuable part played by such societies, Sir Humphry reminded us of the rich heritage possessed by our Pupils' Physical Society, whose meetings have always been peculiarly untrammelled by any undue sense of decorum or the presence of any inhibiting influences to that "fine criticism and opportunity of reply," which is so valuable in any discussion following the reading of a paper. At the conclusion of the address, which we are fortunately able to publish in full, a vote of thanks was proposed by Dr. Hurst, who drew attention to the great interest Sir Humphry Rolleston had always displayed in those diseases associated with the names of Addison, Bright, and Hodgkin, the three physicians he had so aptly termed our "fathers in physic." The presence among the audience of Professor Lindsay, late of Queen's University, Belfast, and now, perhaps, the most discriminating among those who regularly attended the meetings of medical societies in London, was Dr. Hurst considered, an additional testimony to the quality of the address. Before the meeting broke up, Mr. Steward briefly conveyed its thanks to Mr. F. P. Whitbread, Treasurer of the Hospital, for his sterling services in the Chair.

We congratulate the following who have been selected "Clinicals" for the period October 16th to January 15th :—

Mr. G. J. Clarke ; Mr. W. J. Cotton ; Mr. A. N. Jones ; Mr. J. K. Marshall ; Mr. S. D. McClean ; Mr. R. A. Nash.

The physicians in "Clinical" for the above three months will be Dr. Hurst followed by Dr. Ryle.

Recently, several photographers have been seen in the Park and elsewhere about the Hospital ; in most cases, their cameras have been directed at fifteen, or occasionally only eleven, men most absurdly garbed for the time of the year. One camera has, however, been otherwise employed and an excellent series of new photographs of the Hospital is the result. A reproduction of one of these, much reduced, and for detail not to be compared with the original, is presented with this issue of the *Gazette*. Copies of this series may be obtained, in photogravure, at the price of 5s. each from the Wills Librarian, or from the Gazette Office (Counting House). In addition, five excellent etchings will shortly be on sale.

Further details may be found in the advertisement pages.

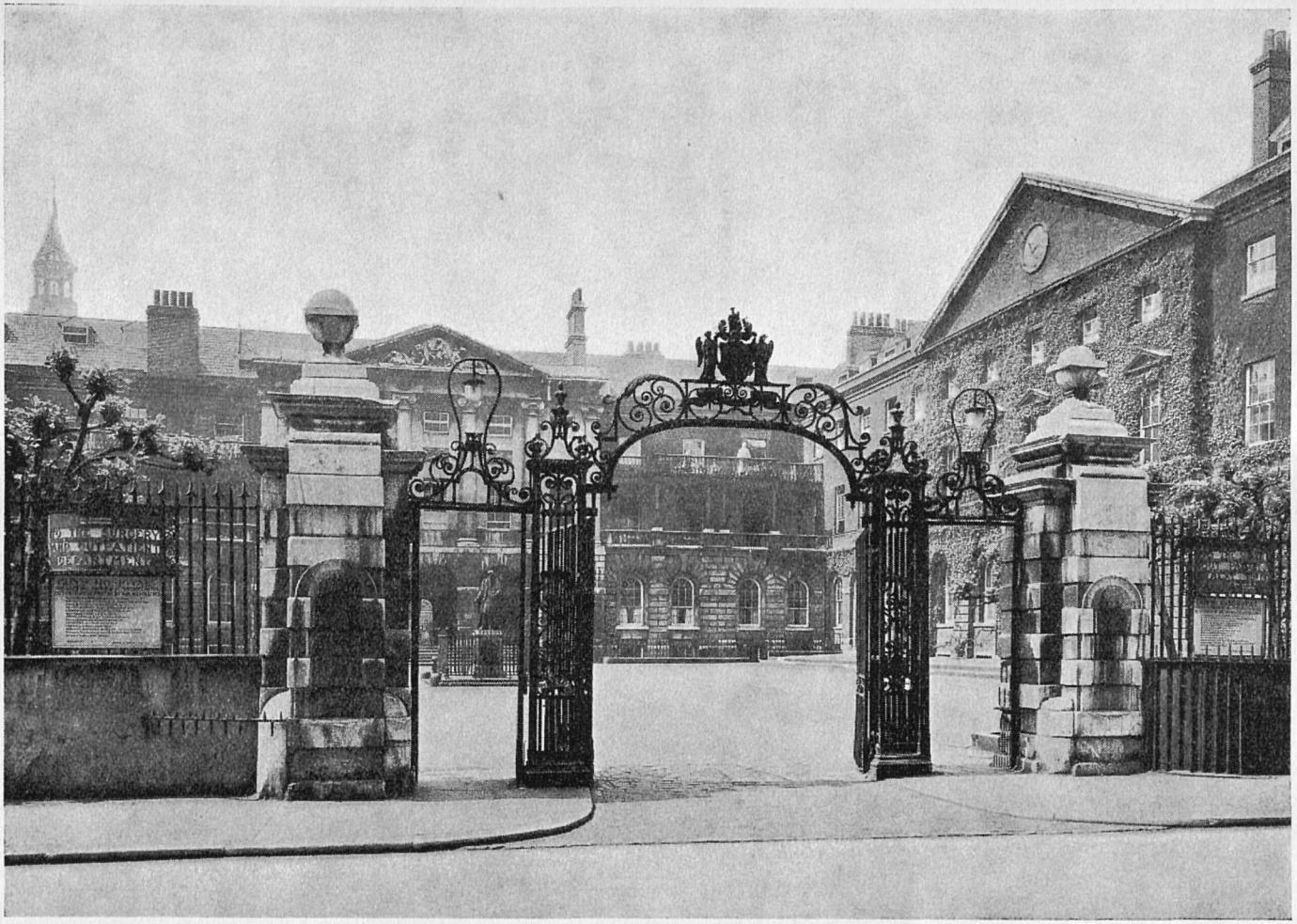
Medical Societies : Their Origin and Value

An Address at the opening of the Winter Session at Guy's Hospital, October, 1929, by Sir Humphry Rolleston, Bart., G.C.V.O., K.C.B., M.D., Regius Professor of Physic in the University of Cambridge

When young, our thoughts and argument are chiefly focussed on the present and the immediate future, so that contemplation of the historical past is cheerfully resigned to those whose age would seem to fit them for such a contemplative occupation ; in other words, medical history seldom appeals to the student who has all that he can do to keep pace with the increasing demands of the medical curriculum, and to take his proper share of outside interests and healthy exercise. Indeed, study of the past may appear to be the province, with the advantage that it is also a wholesome corrective, of the senescent approaching the stage of anecdotage, when experience forms the basis of conversation and ambitions for to-morrow are of a strictly limited, conservative, and often largely negative character. On the other hand, those whose earthly pilgrimage commands a comparatively long vista of the recent rapid progress of science may be convinced that the only way of getting a sound grasp of present knowledge and of the probable future is the historical method and the picture thus given of past events and experience. In any case, the beginning of the academic year is a time to look backwards as well as to the future.

PHYSIC AND THE GUY'S SCHOOL

It is impossible to think of the Medical School of Guy's Hospital without whole-hearted admiration for its traditions ; for its Fathers in Physic : Thomas Addison, Richard Bright, and Thomas Hodgkin—none of whom, by the way, died of the diseases named after them ; for Bright's initiation in 1842 of team work on the intensive study of renal disease by his assistants, G. Hilaro Barlow



MAIN ENTRANCE, GUY'S HOSPITAL, 1929

and Owen Rees, thereby, as Thayer pointed out, anticipating the modern clinical unit; for other distinguished physicians, such as Samuel Wilks, Walter Moxon, James Goodhart, who were also foremost as pathologists; for the philosophic W. W. Gull; for F. W. Pavy, the active physiologist when an octogenarian, and for many others, including a predecessor of James Mackenzie and Henry Head in connection with the problems of referred pain—John Hilton, the surgeon, whose *Rest and Pain* mid-Victorian students were advised to read as more engrossing than the yellow-back novels of that period. The teaching of Guy's physicians has been freely given to generations of the profession in the text-books of Addison and Bright (1839) ninety years back, of Hilton Fagge, edited by P. H. Pye-Smith (1886), regarded by good judges as the best work of the kind, of Frederick Taylor (1890) continued until this present by E. P. Poulton and his collaborators, and as an alternative attraction that edited by J. J. Conybeare (1929). But great as are its traditions, Guy's does not live on its inheritance, for its *Reports*, so unobstrusively inspired by the senior physician, A. F. Hurst, are not only the oldest in London, but, like vintage wines, progressively improve. In yet another direction the school of Guy's Hospital has played a pioneer part, namely, in the growth of medical societies and thus furthering medical education and progress, general understanding and unity.

THE DRAWBACKS OF MEDICAL ISOLATION.

In the past great advances in medicine have largely been due to individual effort without collaboration or much encouragement or financial assistance from outside sources; they have not come in a continuous stream, but in an interrupted fashion, depending on the irregular appearance of men with the necessary outstanding ability. Team work and the combined efforts of several minds will, it may be hoped, make advances in medical science more constant. The attitude of the solitary worker is part of the individuality and independence of the members of our profession; unfortunately, the accompanying lack of combination for mutual advantage, and on occasion for concerted action, has handicapped not only the profession as a whole, but its constituent members, who are thus apt to plough their lonely furrows while glancing askance at others as rivals rather than as familiar friends and helpful colleagues. It is, perhaps, not surprising that, accustomed to fight disease single-handed, the hermit-like doctor may not be devoid of antagonism to his professional brethren. It is, however, hardly necessary to labour the obvious importance and value in the practice of our art and in the advance of our science that may be given by the human touch and the atmosphere of "unity, peace, and concord" which medical clubs, societies, and associations should foster and perpetuate. A medical club or society need not be, and probably seldom is, one for mutual admiration, but it should be one for mutual improvement and the furtherance of good relations—objects so inimitably set out in Sir William Osler's address "On the Educational Value of a Medical Society" (1903).

THE GROWTH OF MEDICAL CLUBS AND SOCIETIES

The first germ of medical clubs and societies may perhaps be found in the meetings, beginning about 1649 in Oxford, of an "Experimental Philosophicall Clubbe." As regards both its objects and its members this was much the same as the Invisible or Philosophical College at Gresham College, London, out of which arose in 1662 the Royal Society, the *Philosophical Transactions* of which are, as R. T. Gunther points out, "an enduring memorial to the first scientific society in Oxford." Many, but by no means all, of the early members of these societies were physicians, such as John Wallis, Thomas Willis, William Petty, Francis Glisson, and George Ent, and in the science of that period medical problems took a far more prominent place than in these days of accumulated knowledge and the necessarily greater specialisation of research.

It was in the eighteenth century that medical men as such began to unite in clubs and societies, and in Great Britain this example was set by Scotland; let us, therefore, gratefully acknowledge the influence of the students' great Society—the Royal Medical Society—in Edinburgh, founded in 1734, and honoured by the grant of a Royal Charter in 1778. From it men, like John Fothergill, came south along the road "with the pleasant prospect of a promised land," of which Samuel Johnson spoke, and with fervid enthusiasm became moving spirits in starting medical societies in London. In the second half of the eighteenth century many medical clubs and societies saw the light in Edinburgh and London, some select, such as "The Society for the Improvement of Medical and Chirurgical Knowledge" (1783), others more catholic, like the "Lyceum Medicum Londinense" (1793), for large numbers, both inspired by John Hunter. Some of them had similar names, such as Medical or Physical Societies, and thus there has been some confusion in tracing them. Among these early medical societies two are of special

interest here—the Guy's Physical Society and the Guy's Pupils' Physical Society.

THE PHYSICAL SOCIETIES OF GUY'S HOSPITAL

The adjective in the title of the Physical Society of Guy's Hospital is at first sight confusing, for it might, naturally, suggest to those unfamiliar with the old-fashioned phrase "the physic line" for our profession and the Regius Professorship of Physic, founded in 1540 by Henry VIII at Cambridge, the more exact science of physics, which as a pre-medical subject of examination must be circumvented by those who aim at devoting their lives to her singular sister physic. The Physical Society of Guy's Hospital, with its name redolent of respectable antiquity dating from 1771, was composed of medical men in and near the Hospital; its first President, William Saunders (1743–1817), was one of the original members of the Medical Society of London in 1773, and the first President of its offshoot—the Medical and Chirurgical Society—in 1805. The success of the Physical Society, though followed by flattering imitation, carried with it a penalty; for the competition of younger societies—the Medical Society of London (1773), the Medical and Chirurgical (1805), the Hunterian (1819), and the South London Medical Society (1832)—became so serious that in 1852 it ceased to be. There is, however, the consolation that its declining years were cheered by watching the activities of its offspring—The Pupils' Physical Society, which is confined to students of Guy's Hospital, members of the staff being eligible as honorary members only. As shown in the history of the Physical Society of Guy's Hospital, written by Sir William Hale-White and Dr. Maurice Campbell, the Pupils' Physical Society dates from 1830, and will, therefore, be able to celebrate its centenary in this academic year. It is a matter for sincere congratulation and justifiable pride that, if the parent's and the offspring's lives be regarded as a continuous whole, the physical family, so to speak, of Guy's, is the oldest medical society in London.

THE PHYSICAL SOCIETY OF GUY'S HOSPITAL AND THE MEDICAL SOCIETY OF LONDON

It is interesting, as showing the character of the men concerned, to glance at the connecting links between the Physical Society of Guy's Hospital and the present Medical Society of London, founded two years later, in 1773, by John Coakley Lettsom. Members of the senior Society seem to have held out a helping hand to the junior; for Guy's is well represented in the picture painted in 1791 by Samuel Medley (1769–1857) of the twenty-two "founders" of the Medical Society, some of whom, however, were really men prominent in medical London at the time it was painted rather than responsible for the birth of the Society. This well-known picture shows William Saunders; the much-beloved William Babington (1756–1833), the founder of the Geological Society in 1807, and its president in 1822, one of the founders of the Hunterian Society in 1819, and, like his colleague Saunders, concerned in the formation of the Medical and Chirurgical Society in 1805; *John Haighton* (1755–1823), anatomist, physiologist, obstetrician, and mathematician; John Relph, physician to Guy's (1789–1804) and President of the Medical Society in 1785; and Robert John Thornton (1768–1837), a Cambridge Bachelor of Medicine (1793), lecturer on botany at Guy's, and a prolific writer on medical subjects, who, early in his career, was ruined, financially, by his work on botany, *The Temple of Flora* (1804), of extraordinary size with splendidly coloured plates.

MEDICAL CLUBS

The evolution of a full-blown medical society can easily be traced; the embryonic stage is found in medical friendships and the gregarious nature of the human man—an attractive feature more frequent and effective in early than in later life. In due course, the initiative of some energetic spirit creates a medical coterie or club, and meetings for the reading and discussion of papers follow. By expansion and systematic organisation a medical club may, like the transformation of a financial syndicate into a company, give birth to a society with a more catholic membership; for example, the informal "Moorfields Club," which met in the house surgeon's room for the discussion of ophthalmological cases and problems as far back as 1866, in 1880 took steps to establish the Ophthalmological Society. Sometimes, on the other hand, the club stage is short-lived or is practically short-circuited, for example, in the formation of the Association of physicians of Great Britain and Ireland, in which William Osler, Richard Douglas Powell, William Hale-White, Wilmot Herringham and others were true begetters.

Medical Clubs differ from medical societies mainly in their less formal and more private character, in the more personal element, especially in the election of their limited membership, and usually in not possessing a library, which is such an essential asset to a medical society. To some extent, this serious want may be met by a subscription to a circulating library, and, in some instances, the book-club element forms the basis

and covers all the educational activities of a medical combination. Modern medical clubs very rarely publish their proceedings, but the Charaka Club of medical bibliophiles, mainly resident in New York, has brought out a number of volumes containing the papers read at its meetings. A medical club is the organised outcome of a group of men working in unison; these clubs flourished long before the word "team-work" became popular in connection with those engaged in original research, but the same fundamental principle that inspires the research workers is shared by clubs or small societies designed for mutual education. Medical clubs differ much in their objectives, the prominence of the scientific and social characters varying widely. Some starting with high educational intent have become more social and post-prandial, so that later the members are chosen rather for their clubbable attractions than because they are pale students. Such a lapse from the ideal of high thinking to high living is, it must be feared, more frequent in clubs made up of prosperous qualified men than in those whose members are *in statu pupillari*.

MEDICAL SOCIETIES

By those who do not attend medical societies, and may, perhaps, regard this devotion as a youthful indiscretion, the reason confessed for their abstinence is sometimes, not indolence, but a delicate disdain for self-advertisement. Modesty is, indeed, an admirable virtue, particularly in our rivals; but the English are somewhat prone to an excess of this fine trait, and men too diffident or hypercritical of their own work, or too much impressed by the verse expressing a desire that "mine adversary had written a book," may delay publication of their observations indefinitely so that they remain mute and inglorious, and thus may, perhaps, delay the progress of knowledge. The wisely modest man remains a student all his life, and recognises a medical society as a means of easily obtaining post-graduate instruction. With the passing years, the habit of attending meetings wanes and, eventually, is given up altogether, ostensibly on account of the increasing calls and fatigue of professional life; as a result the individual necessarily loses touch to some extent with what is going on, though with the unconscious failure of mental elasticity he may remain blissfully self-sufficient. He may excuse himself by saying that he can read it just as well and more quickly; but, even if he remembers to do so, the effect of the written word is not always the same as that of the spoken address. Further, and this is not very rare, laziness when disguised, like a wolf in sheep's clothing, under the cloak of modesty, may exert an unwholesome influence; a cynical attitude to societies in a senior tends to counteract the benefits that may be obtained from the give and take of debate; it may discourage others from speaking and sharing in the stimulating contest of wits which by a flash may create new ideas and strike out hypotheses worthy, at least, of being tested.

At first public speaking is a nervous experience, and with many, even the best known speakers, this is always the case, as Mr. T. P. O'Connor, the father of the House of Commons, and so an authority, has said. As the restless anxiety is felt before, rather than during delivery, the intending speaker may easily be inhibited by the unkind, perhaps whispered, suggestion during a meeting, that the speakers are bores; but he should estimate the significance of the snub by consideration of his critic, for there may be some element in the case of:—

"So have I heard on Afric's burning shore
"Another lion give a grievous roar,
"And the first lion thought the last a bore."

That those prominent and keen at societies possess the faculties which make for professional eminence and success is well shown by the records of the Royal Medical Society run by the students at Edinburgh, the Presidents of which so often reach the seats of the mighty both in the Northern Athens and in the capital of what the Scots have modestly called the southern peninsula of their country; Richard Bright, for example, was President of the Royal Medical Society before he left Edinburgh in 1813 for Cambridge, where he spent two terms before returning to Guy's. Another instance of early activity at societies as an omen of future success, was seen in London about fifty years ago when no medical meeting was said to be missed by "the three G.'s"—Sir James Goodhart, Sir William Gowers, and Professor W. S. Greenfield of Edinburgh, who reached the highest places in general medicine, neurology, and pathology, respectively.

THE ADVANTAGES OF MEDICAL CLUBS AND SOCIETIES

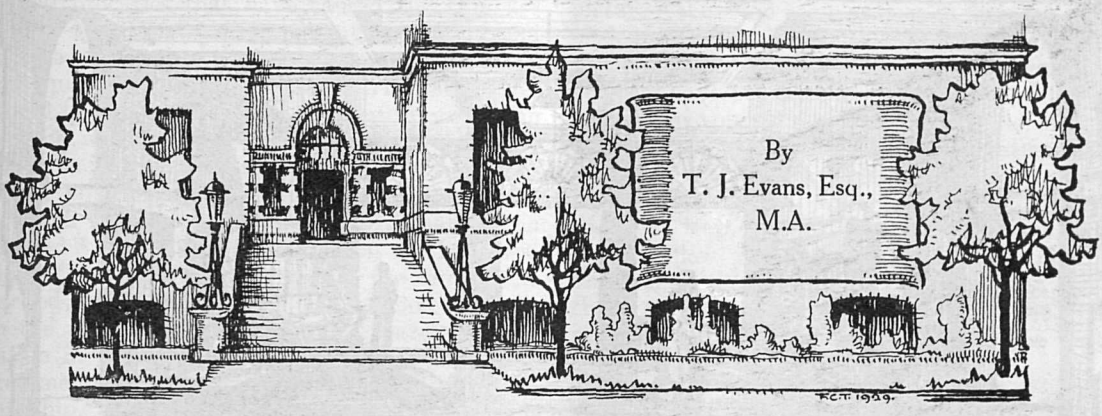
Medical Clubs of an educational character have become much more numerous of late years, and this, no doubt, is associated with the legitimate rise of specialism; there are a number of clubs formed of men active in particular lines, such as laboratory research, physiology, clinical medicine, surgery, children's diseases, cardiology, neurology, laryngology, and so forth. They provide the

opportunity for informal, private, and critical discussion of new work in a pre-publication phase, and for visiting clinics, not only at home, but also abroad, thus providing an antidote against incipient chauvinism or insularity. It is difficult to exaggerate the value of such clubs in multiplying enthusiasms and thus stimulating research work, in bringing men together, in originating and maintaining friendly relations and so obviating the risks of misunderstandings and minimising jealousies among men who are rivals in climbing the ladders of scientific and professional success. As the personal characteristics of the members must influence the success of such clubs and the elections, it might be urged that there is a risk of thus fostering a spirit of cliquishness; but even if this be admitted, the undoubted good that results greatly outweighs any occasional harm, and for the able, if prickly, individual, the larger societies and the journals offer ample opportunity of letting his light shine before his fellows.

In addition to the educational advantages of merely listening to papers and following discussion, there is the inestimable benefit that writing a paper confers on the author, for it should entail a thorough review of the subject and the critical marshalling of data, ideas, and the results of his own experience. Without some stimulus of this kind, such as lecturing in a medical school or writing a book, the habit of *not* reading systematically easily gains the dominion, and this, though at first imperceptible, is the first step away from an acquaintance with progressive medicine. A valuable and instructive, though often evaded, function of a medical club is the obligation on each member in turn to contribute a paper or demonstration; for not only is this the most excellent way of obtaining a knowledge of the subject selected, but it provides a training in the art of accurate argument and exact expression. The power of writing well is not an easily acquired, much less an innate, gift, as the autobiographical confessions of Robert Louis Stevenson and T. H. Huxley, both masters of different styles, should convince any sceptic; it demands much patient practice and of a more exacting character than that necessary to acquire facility in public speaking, and yet this is often unrecognised by those who have not tried to set out their thoughts on paper and had the privilege of hearing the candid opinions of their readers. It is interesting in passing, to compare medical writers and speakers; the successful writers have more often been physicians, as the Guy's traditions prove; whereas real oratory, a rare accomplishment, seems specially related to surgical eminence, as is so remarkably shown by the succession of William Lawrence, James Paget, William Savory, and Henry Butlin, at St. Bartholomew's Hospital, and by other Presidents of the Royal College of Surgeons of England. The training in writing papers is an invaluable preparation for the production of professional reports, articles, and books, and there is, therefore, this further justification, if it were needed, for the not very popular requirement of theses for degrees in medicine at the universities. Another advantage reaped by the author of a paper is the free criticism and opportunity of reply that may follow its delivery before a club unrestrained by the presence of high authority or by the fear of the premature and compromising publicity which attends speaking at a large medical society. It is, therefore, important that the members of students' medical clubs and societies should be responsible for reading the papers and opening the discussions, and that their seniors and teachers, who must be treated with at least outward respect, should only exceptionally be in the chair, read papers, or be listeners. Otherwise the opportunities of education in the art of speaking in public are diminished. To be able to speak clearly, without hesitation or repetition, to the point, to be able to think and marshal knowledge when doing so, and to deliver this in an attractive form without egotism is seldom attained without much practice and trouble, and the sooner the early and worst stages of this rather painful experience are left behind the better. To be a good speaker is an asset inside our profession—in demonstrating and lecturing—and also on occasion in the outside world. In 1801 Sir Astley Cooper wrote to his assistant, J. C. Saunders, "I have wished to see you join in the debates of the Guy's Medical Society. The capability of expressing our ideas in public is a source of more power than anything with which I am acquainted. It is the road to bring a public teacher to character and to fortune."* Some early medical clubs and societies, especially one of the several started by Andrew Duncan, Senior, in Edinburgh, and some in London, published the papers read before them. Duncan's *Medical and Philosophical Commentaries* (1773–95) were continued as the *Annals of Medicine*, and *The London Medical Journal* (1781–91), was edited for a Society of Physicians by Dr. Samuel Foart Simmons. This appears to have been the origin of medical journals; before the middle of the eighteenth century there were not any periodicals, except the *Philosophical Transactions* of the Royal Society, in which medical papers could be published, books or pamphlets being the outlets for medical activities.

*History and Traditions of the Moorfields Eye Hospital by E. Treacher Collins, p. 5, 1929.

To Those Undertaking the Pre-Clinical Sciences



By
T. J. Evans, Esq.,
M.A.

OLD readers of the *Gazette* may remember a valedictory letter from a graduate in his first billet, who thanked his stars that he had already cleared his mind of the last traces of certain biological facts inflicted on him in his first year as a student, and called the same stars to the rescue of future victims. It is commonly assumed that Freshmen regard the few rudiments of pure science which they are doomed to acquire as a necessary evil, invented by the licensing authorities of medicine. It is also a custom to remind you that a little science is salutary, and that, if you take your aperitif without wincing, you will the sooner proceed to the real stuff of the meal. This attitude of apology for the pure sciences is a poor welcome to a school whose business is the extension and application of chemistry, physics and biology. The whole body of a living man is a balanced assemblage of chemical and physical experiments, and the whole art of healing is a physical and chemical attempt by physical and chemical means to restore this balance when it goes wrong. Moreover, all bodies and their make-up of tissues, whether ill or well, are behaving biologically. You can therefore never know enough of the sciences you must spend your lives in applying. Make the most of the all too short year allotted you for their acquisition.

It is well to understand that the bulk of knowledge to be acquired in your first university year is larger than any year's work you have tackled before, and each year's work goes on increasing. This demands a good method of study. Each man, unless he has been lucky enough to find out at school, must work it out for himself. Listening to lectures is one way of learning, and by itself the least efficient. By reading text books and writing out notes and tabulations the eye reinforces the ear, but the laboratory is the great place of study, because there alone are the real things. The sin of the laboratory is pottering, and the besetting vice of the student at home is desultory reading in the armchair. Read at a table, pencil in hand. Short intent hours are worth whole evenings over the fire.

Finally, keep yourself fit. Join the clubs and play, Honor Oak, the gymnasium and the swimming bath are the best approaches to the laboratory and the lecture room—which is only a paraphrase of an old wisdom.

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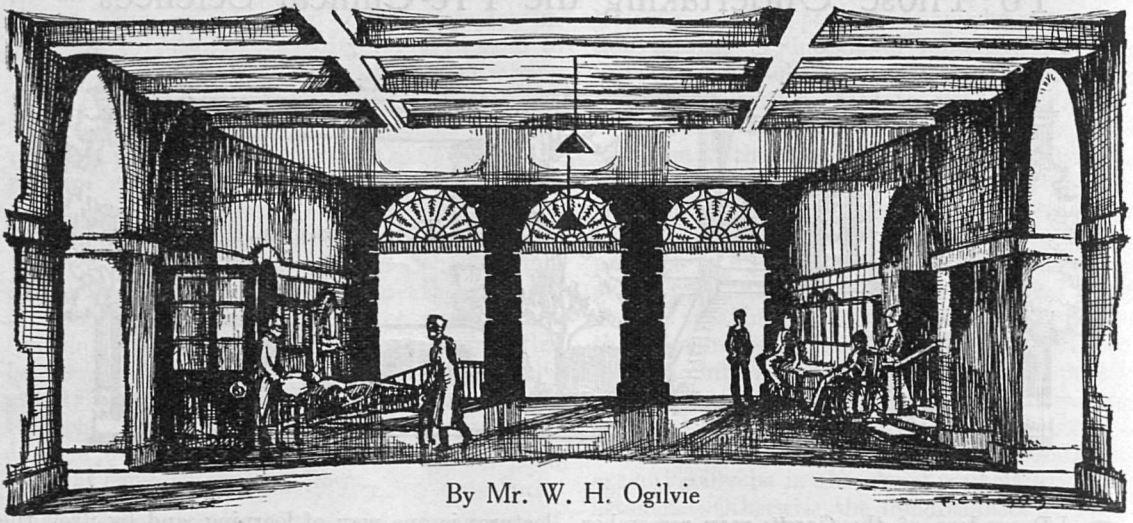
The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.

To Those Entering the Surgical Wards



By Mr. W. H. Ogilvie

GUY'S HOSPITAL rightly enjoys a world-wide reputation as a medical school, which for generations has sent into all parts of the world doctors armed with practical knowledge and with the willingness and ability to take responsibility which a practical training implies. There are two special advantages of the teaching here—the great wealth of material which passes through the wards and Out-Patients' Department, and the responsibility which is given to every man from the very outset of his career. In each appointment he is not taught only, he is asked to carry out essential work for the Hospital and for his patients, and trusted to carry it out well. At the beginning and close of the clinical period stand two appointments which are peculiar to Guy's, Surgical Ward Clerk and Clinical, and both of them have this combination of responsibility and instruction.

It is on the surgical side of the Hospital that you who are now entering the wards will first encounter the practical side of the profession you have adopted as your life's work, and the human material with which that work is to be carried out. It is as well that it should be so, for here the issues are clearer. Later will come the study of prolonged and progressive disease, of those degenerations which follow upon misspent lives or have causes still unknown, of failures rich in scientific interest, but at present beyond your power to remedy. You will meet much that is depressing. But during your first three months in a surgical ward you will find yourself in one of the most cheerful places in the world, where hope is the keynote, and hard, active, useful work your daily occupation.

For you who have chosen aright, this time will stand out with ineffaceable clearness for the rest of your lives. What has gone before has not been without interest, but the interest was academic. It was like the long drilling on Salisbury Plain, which made the raw recruits into the material of Kitchener's Army. The crossing of the Channel took them from make-believe to real war, the actuality for which all the drill had been a preparation. The rehearsal was over, the curtain was up. And so, in a surgical appointment, you are suddenly in the midst of real life. You are confronted with accidents, sudden infections, grave calamities. In the main it may be said of the patients whom you will encounter, that they are healthy, normal, sane individuals, struck without warning by some sudden misfortune. You are present at this crisis in their lives, and it is in your power to help in fighting it. There is something to be done; and when it is done it is your privilege to see the rewards of victory—the quick recovery and the return of hope.

There is another advantage of starting your career on the surgical side. You are introduced to disease in a comparatively simple form, and the knowledge of anatomy and physiology which is fresh in your mind enables you to grasp very much of what you encounter without the need of lectures or text books. Very much of surgery deals with local disease, that is to say, there is one faulty structure in an otherwise healthy body. Given a thorough knowledge of anatomy and

pathology the teachings of surgery become self evident. Surgical diagnosis is little more than the answering of two questions—what is the anatomical structure involved and what are the pathological processes that have caused the trouble? A man has thrust his arm through a window and a piece of glass has penetrated the forearm. The first question that faces you, "What structures would be encountered from without inwards if an incision were made in such a situation?" is one that you might reasonably be expected to answer in an anatomical paper. The second question, "Which of these structures has actually been divided?" means an investigation of the sensation of the different nerves, and the movements carried out by the muscles and tendons which lie in the path of the injury, and a search for pulsation in the arteries distal to the wound. The treatment is an exercise in anatomy and craftsmanship, very interesting, because the relations which have been memorised by force of will are now brought vividly before you under the bright light of the operating lamp. Your hardly-acquired knowledge makes you not only a sympathetic fellow man, but one skilled to restore function and promise recovery to the patient.

During these three months you will work very hard, probably harder than you have ever done before, but it is all tremendous fun. Your primary duty to the Hospital is to keep a record of the cases under your care. This you will do as well as possible, both for your own sake and because on the accuracy and lucidity of your account will depend the value of the record in years to come should the same patient be readmitted or should a series of similar cases be investigated for statistical purposes. Besides clerking, however, you will be expected to help in every activity of the firm to which you are attached, from carrying patients to making tea in the dressers' room during "take-in." This appointment is your great opportunity for making yourself proficient. You should familiarise yourself with the somewhat elaborate routine of modern asepsis. You should take every opportunity to watch the dresser looking after your cases, for in the next appointment you will be a dresser yourself, and will be expected to know your work. It is the privilege of the beginner to ask questions, and this you should do in season and out of season. All knowledge which you acquire will stand you in good stead as a dresser, and as a dresser you will have more work to do yourself and less opportunity to learn by watching that of others.

You will go to bed very tired, and you will find little time to read. Do not therefore make any attempt to work through a surgical text book, but read up your own cases carefully. True surgical knowledge is part of your own self, and is based upon a memory of individual cases followed through and committed to memory. To be thus remembered each case must be a clear cut picture; therefore begin at once to form the habit of definite decision. At this stage it is far better to be certain than to be right. To begin with, you will have but little knowledge, but with what knowledge you have examine each case, make a definite diagnosis, and decide what treatment you would adopt. Whether the outcome proves you right or wrong, you will remember it, and you will have learned something in the process. But if you allow yourself alternatives you may be tempted to the complacent reflection that one of them at least was right. Any man who could remember all his mistakes would be the wisest surgeon in England at the age of 60.

Be interested in everything, in your patients and your fellows; no less in the nursing which completes the cure than in the operation which initiates it. It is an old saying that the wise doctor treats the patient as well as the disease Enter into human relationships with your patients They will call you doctor and will hang upon your words, and there is much you can do to make them well besides ministering to their surgical wants. In this side of your work alone you will learn much that will help you to success in after life. At Guy's we are particularly fortunate in our patients. There is no foreign quarter in the Borough, no shifting population. British dockers, navvies, carters, factory hands and their wives and children, come into our wards to be made well. They are fine people and proud of living round the best hospital in England. Their happiness and our good name are in your hands.

Notice

ASTLEY COOPER STUDENTSHIP.

THE Studentship, which, under the authority of the Charity Commissioners, is maintained by the Physicians and Surgeons of Guy's Hospital, as Trustees of the Astley Cooper Prize Fund, is now vacant.

The student, who is called the "Astley Cooper Assistant to the Curator of the Gordon Museum," will be elected in the first place for a period ending in July, 1930, but will then be eligible for re-election for three years.

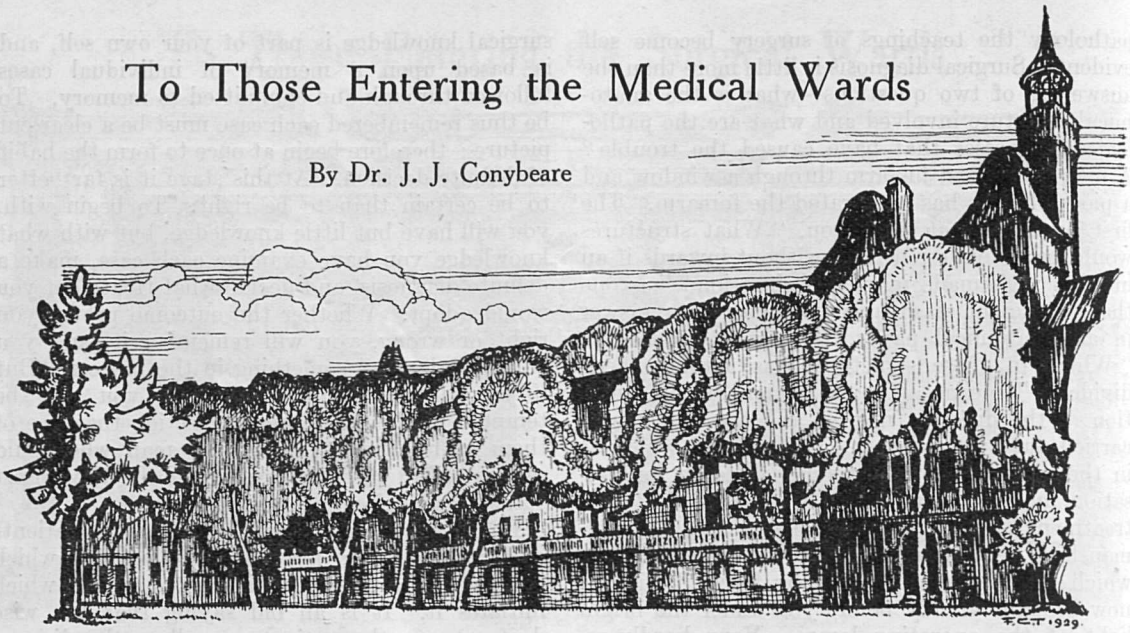
The present value of the Studentship is about £150 per annum with an additional sum of £50 for expenses.

In accordance with the terms of Sir Astley Cooper's will, the Studentship shall not at any time be awarded to any member of the Staff of Guy's or St. Thomas's Hospital, nor to anyone related by blood or affinity to them.

Particulars regarding the Studentship can be obtained from Mr. Philip Turner, M.S., Guy's Hospital, London, S.E.1, to whom applications for the post should be addressed on or before October 7th, 1929.

To Those Entering the Medical Wards

By Dr. J. J. Conybeare



FIVE years ago I was honoured by the Editor of the *Gazette* in being asked to write in the Students' Number some advice to those about to enter the wards. In the few short years that have elapsed, there have been considerable and important changes in the medical curriculum. At the present time, you are required to spend a minimum of three years in clinical work as compared with the two years minimum of the old regulations. With this increase in the duration of your ward studies, the School at Guy's has introduced two new appointments each of three months' duration, the Preliminary Clinical Period and the so-called Free Period. At the present time, all those of you who come under the new regulations will before you enter on your first three months as medical ward clerks, have had an opportunity of obtaining a sound knowledge of the basic facts on which the science and art of medicine is founded. In consequence, at your first entry into the wards of the Hospital you will feel more at home and more conversant with the routine of hospital life and treatment than was formerly the case when students started as surgical ward clerks immediately they had passed their examinations in anatomy and physiology.

Changes have occurred in other directions during the last five years. Courses in bacteriology and pathology are longer and more thorough; increased facilities are available for clinical investigations in the clinical laboratory under the able direction of Dr. Knott. With the institution of the Free Period you are able to obtain the necessary experience in anæsthetics and fevers without encroaching on time that should be employed in your routine ward appointments.

Although life as a medical ward clerk is in some ways less strenuous and entails more routine work than that in the surgical wards, you will be well advised to remember that it is during the six months spent as medical ward clerk that you will learn most of the medicine which you need not only for purposes of the final examination, but in your after life as a medical practitioner. Three months wasted during this important period puts you at a great, one might say, irreparable disadvantage. Above all, avoid the idea that medicine and surgery can be dissociated. Many a student makes up his mind even before he enters upon the clinical portion of his curriculum that he is destined to be a surgeon. For such a one a thorough groundwork of medical knowledge, such as can be obtained during six months in the medical wards, is quite as essential as for the budding physician. Most important of all, do not try to serve two masters by an attempt to combine the appointment of medical ward clerk with working at anatomy and physiology for the Primary F.R.C.S. examination. Such an attempt, in the vast majority of cases, leads only to failure to attain the objects in view.

As medical ward clerk you will find yourself in charge of the reports of certain patients. Try to know everything about your patients, the history of their illnesses, the physical signs they present from day to day, the investigations

chemical, hæmatological or radiological, that are done upon them, the course of their diseases, and the treatment they may receive. Though you should, of course, make careful notes in their reports, you should also carry your knowledge of them in your head and be able to answer any and every question about them without reference to the written word. As far as possible carry out the simpler clinical investigations on your patients yourself. To enable you to do this excellent facilities have been provided for you in the Clinical Laboratory, which is open day and night, and where Dr. Knott is always ready and willing to assist you in any problems that may arise.

Do not, however, start your medical ward work with the idea that careful attention to your own individual patients is all that is required. The good ward clerk will be familiar not only with those cases specially allotted to him but with every case in his own division of the ward, and, indeed, with a good many of the patients who are in the beds of physicians other than his own. It is only in such a manner that sufficient patients can be seen to enable you to obtain a thorough groundwork in the whole of medicine.

The Governors of the Hospital very wisely allow students access to the wards from 10 in the morning until 7 at night, with the exception of half-an-hour from 1 to 1.30. At any hour during the day you are entitled to be increasing your fund of clinical experience. It is up to each of you, for his own benefit, to see that he makes full use of the facilities so freely offered. Make a point of going to the wards between tea and dinner. During that period you can, with great advantage to yourself, examine at leisure those patients on whom physician or registrar has taught during the day. If possible, join forces with one or two of your fellow ward clerks in an informal round after tea. Try to keep in touch with the House Physician. Be present when any small operation, such as a lumbar puncture or tapping of a chest has to be done. If you are in the ward you will, at least, see the operation performed, if not, indeed, be allowed to carry it out yourself. If any of your patients are operated on either in the medical or surgical wards make a point of being present yourself in order to obtain first-hand information of the condition discovered. Likewise, when one of your patients is examined with the X-rays be present yourself.

During the Preliminary Clinical Period you will already have had an opportunity of learning the elements of physical signs. It is important, however, to realise that when you enter the medical wards your knowledge of such subjects is only rudimentary, and that it must be supplemented and expanded by repeated percussion, palpation and auscultation. Such methods in diagnosis are of immense value and proficiency can only be acquired by prolonged and painstaking practical experience. By the time you have completed your six months as medical ward clerk, you should aim at recognising, with certainty, all the more obvious physical signs.

Nor is your work for the day finished when you leave the wards. Then is the time to read up in your text-books accounts of diseases of which you have seen cases. Do not attempt to learn your medicine by reading a text-book from cover to cover. Concentrate on obtaining a thorough knowledge of the diseases which you have yourself seen, and at the end of six months in the medical wards you will find that there is very little of importance about which you know nothing. Keep private notes of all patients whose cases strike you as interesting. A few quite brief notes made soon after you have seen a patient will help to impress the case on your memory. If you do this systematically throughout your career as a medical student, you will find that you have produced a text-book, which at any rate to yourself, conveys much more than can be found in any published work. Particularly remember your mistakes, for only by doing so can you avoid a repetition in the future.

Remember also that you are dealing with patients who, like yourself, are human beings, often rendered abnormally sensitive by illness. In your dealings with them try to cultivate an attitude of sympathy, patience, tact and consideration. By so doing you will be more likely to gain an insight into their troubles and you will also help to maintain the reputation of the Hospital. To be polite costs nothing, whether in your relationship to patients or those members of the Hospital staff, such as nurses and sisters, with whom you may come in contact. Work in the wards, whether as ward clerk, dresser or house officer, is rendered easier by the maintenance of good relations with the nursing staff. Though it may sometimes be necessary to be firm, be careful to avoid aggression.

It has long been the proud boast of Guy's as a Medical School that it gives its students an eminently practical education. Remember that attendance at lectures or classes, however assiduous, does not in any way replace a personal study of your patients. As dressers in the wards, at out-patients and in the surgery, you will have ample opportunities of seeing and dealing with patients. Success, whether in the field of medicine or surgery, must ultimately depend on the development of your own powers of observation, and of

sifting and summing up the evidence. If you do not learn the value of thorough and systematic examination of a patient, while you are a student, you will never do so.

Remember, too, that as a Guy's student you are a unit in a great corporate body ; that, to some extent, at any rate, the reputation of the Hospital depends on the way in which you treat your patients. After a long morning in the surgery or at Out-patients, the best of tempers is apt to become frayed. At such moments try to show the patience and consideration to which any sick person, rich or poor, is entitled.

As a last word of advice, do not allow your professional studies to debar you from taking an active interest in other spheres. A successful medical practitioner must be capable of doing more than diagnosing his patients. He will often find himself called in as a guide, philosopher and friend. In other words, a knowledge of the world, using the term in its widest sense, is fully as important as professional skill.

Finally, consider your own health. It is unfair, both to yourself and to your patients, to remain at work when ill. Not only do you run a risk of imparting to them your own infections, sometimes with disastrous results, but persistent neglect of symptoms on your own part may leave your own health permanently impaired. The great watch-words for every medical student, particularly those of you who live in or near the Hospital, should be exercise and fresh air. Make a point of getting exercise on every possible occasion, and whenever you have no duties which necessitate your attendance at the Hospital during a week-end, try to leave the atmosphere of the Borough behind you and go out into the country.

The Medical Curriculum

1. The Sciences

THE matriculated student will, in his first year, study Inorganic and Physical Chemistry, Physics and General Biology, and at the end of this period, provided he has worked diligently in the laboratories, and attended the Lectures and Revision classes regularly, should have no difficulty in passing the First Examination for Medical Degrees. In his second year he will study Organic Chemistry, together with Anatomy and Physiology, and at the end of the second winter, provided, as before, that he has worked steadily from the commencement, should have little difficulty in passing the First Part of the Second Examination for Medical Degrees. Anatomy, Physiology and Pharmacology are then taken as the Second Part of this Examination at the close of the third winter, prior to commencing Clinical work in the wards.

From Medical and Dental students who are preparing for the Premedical Examination only six months' work is required, but those entering without previous knowledge of Chemistry and Physics will find that time hardly sufficient, and are usually advised to take the full "year" of three terms, or nine months.

The importance of practical work cannot be too greatly emphasised, and lectures and books can but supplement work done in the laboratory. Guy's men have no excuse for neglecting laboratory work. Students are strongly urged to form early the habit of spending their spare hours, apart from those officially allotted, in one or other of the laboratories. Reading should be left for the evening. After a day in the laboratory, reading a good text book will be found to give ample scope for thought. "Cramming," or the memorising of words and phrases, without a knowledge of the corresponding realities, is one of the worst intellectual habits a student can acquire, and in the long run invariably leads to failure.

CHEMISTRY AND PHYSICS

The student is often tempted to regard the study of Chemistry and Physics as one of very little use when once his preliminary examination is passed, but he will find in his study of the sciences of Physiology, Pharmacology and Pathology that a proper understanding of Physical and Organic Chemistry and Physics is invaluable and essential. That this is so is now fully recognised in the London University curriculum, which should be carefully studied by every London student.

BIOLOGY

Biology, like all the sciences, is properly studied in the laboratory, because things seen are better understood and remembered than things read or heard. Animals and plants are the true sources of a knowledge of biology, and more correct than the text books written about them. Acquire, therefore, the laboratory habit and record carefully what you observe. Use your books as reminders of the things seen. Draw much. It saves you

from the habit of verbal memorising. The drawing of a diagram is the best way of testing the accuracy of one's knowledge in a descriptive science like biology. In the laboratory are also demonstrators whose duty it is to clear up your difficulties. Equip yourself with the necessary instruments. A microscope is needed at once. Its purchase requires care and advice. Students have been known to saddle themselves with an instrument that gives them unsatisfactory results for a whole year, and gets condemned in a later microscopical course. This is poor economy, as the difference in price between a good and poor microscope is small. If you are buying a secondhand instrument, bring it to the laboratory for examination by the demonstrators before you complete the purchase.

ANATOMY

The primary object of dissecting is to render oneself familiar with the structures of human anatomy and their relationships one to another. A good knowledge of human anatomy is essential to the medical student, owing to the great scope for application of this knowledge which is provided by medicine and surgery, and it is no exaggeration to say that the better a man knows his anatomy the more likely is he to succeed in these subjects. By handling and tracing the structures exposed in dissections, the student is enabled to form mental pictures which greatly exceed in value the plates and diagrams to be found in books, and it cannot be emphasised too much that the knowledge obtained by dissecting is more thorough, more lasting and more definite than the knowledge obtained by text books, however good the latter may be.

In addition, dissecting trains the fingers and develops the sense of touch and that delicate muscle sense which is so necessary to aid the eye in carrying out a delicate manipulation.

The basis of anatomical knowledge is a thorough acquaintance with the bones. These can only be learnt by handling the bone and making out each point on it as the description in the book is being read. Hence, it is very desirable to possess a half skeleton. (This may be had from Mr. Walker, the Senior Assistant in the Anatomical Department, who will also supply cases of instruments.)

Full use should be made of the Specimen Rooms and of the famous collection of Wax Models in the Gordon Museum. The latter are quite unique and of great value to the student who is revising his work.

Men who intend to take the Primary Examination for the Fellowship of the Royal College of Surgeons should attend both the course of Lectures for senior students in the second winter session—for time, *vide* notices—and also the special class for the Primary Examination.

Books and Instruments

The student requires a Manual of Practical Anatomy, in which the structures are described as they are exposed in the course of dissection. The best book for this purpose is Cunningham's *Practical Anatomy* (3 vols., 12*s*. 6*d*. each); it should be read before, during and after each day's work.

In addition a text book of Human Anatomy, in which the subject is described by systems, is necessary. Gray's and Cunningham's text books are both good.

Men who think that they may want to take the Primary Examination for the Fellowship of the Royal College of Surgeons will require a book dealing with Embryology and Morphology, and they will find that Keith's book on the subject contains all that is essential.

The following instruments are necessary: Three scalpels, two pairs of *dissecting* forceps, and two sets of "hooks." No other instruments are required.

Dental Students

The detailed knowledge which is demanded of the medical student is essential for the dental student only as regards the head and neck and the bones of the skull. Special demonstrations are arranged each term suitable to the requirements for the L.D.S. and B.D.S. Examinations.

PHYSIOLOGY

Physiology, which forms the basis upon which scientific medicine, surgery and midwifery rest, will require the most earnest attention on the part of the student during the short space of two years which he can devote to it, and he will find that his understanding of the medical, surgical and pathological problems which he will meet later on varies directly with the thoroughness of his physiological ground work. Some elementary work on the subject such as the book by Bainbride and Menzies should be read in order to obtain a general knowledge of the scope of the subject.

The student should attend the Lectures on Physiology—for times, *vide* notices—and also the tutorial classes, which are held by the demonstrators. During this time he should read the subject in some text book such as Starling's *Principles of Human Physiology*, Halliburton's *Handbook of Physiology*, or Howell's *Text Book of Physiology; Essentials of Physiology*, by Bainbridge and Menzies, affords a concise, yet

readable, account of the subject. While attending the practical classes held during the winter, the student is advised to read *Practical Physiology* (published by Arnold).

Physiological Clinical demonstrations for senior students are held each week.

Candidates for the M.B. of London or other Universities must in addition attend the class in Advanced Practical Physiology, held twice a week during the second winter session, and this class should also be attended by men working for the first F.R.C.S. examination.

Those desirous of obtaining a wider knowledge should supplement the course of reading indicated above with original papers in the *Journal of Physiology*, with parts of *Recent Advances in Physiology*, by Lovatt Evans; *Principles of General Physiology*, by W. M. Bayliss; and *Applied Physiology*, by Samson Wright. Revision classes are held by the Demonstrators during the two months preceding the first F.R.C.S. and the M.B. examinations, and should be attended by all candidates.

A special course is held for candidates for the Honours B.Sc. of the University of London.

2. Pre-Clinical Period

THE extension by the Examining Bodies of the student's curriculum of study has allowed the addition of an extra period of three months preliminary instruction before the student actually embarks on his duties in the wards.

It has long been felt that the time allotted to the study of Medicine, in the limited sense, has of late years been encroached upon and curtailed by his duties in the Surgical Wards and the Special Departments, and the opportunity was gladly seized of redressing the balance by giving him extra tuition in medical subjects.

The object of the Pre-Clinical Period is to instruct the student in the routine methods of examination of patients and in the detection and interpretation of physical signs, so that on his entry into the Medical Wards he will be able immediately to derive full benefit from the teaching of the Registrars and Physicians without the laborious explanations and tedious insistence on elementary points necessary before the introduction of the scheme.

In addition to this instruction, which he receives from the Clinical Tutor in charge of the course, the student gets a course of Clinical Chemistry from Dr. Ryffel and Dr. Knott, Elementary Pathology, Minor Surgery and Bandaging from the Surgical Registrars, and instruction in the methods of examining the eyes, ears, nose, etc., from the heads of the departments concerned.

3. The Wards

SURGICAL WARDS

THE appointment of surgical ward clerk is the first of the appointments held by the student during his Clinical training. In many ways it is the best of all the appointments, as most of the teaching, both by the Surgeon and the Registrar, is for his special benefit. Furthermore, a reputation for keenness and ability earned in those early days will follow him and help him throughout the rest of his time at the hospital. Each clerk is attached to one of the surgical units for three months, and it is his duty to record the history and progress of the cases allotted to him.

The wards are open to the student at 10 o'clock, and he should have written up the history of the case and, as far as possible, have examined the patient before the Registrar of the unit begins his round at 10.30, when each case is discussed and the report of the clerk confirmed or amplified. The student during this period will do well to confine most of his attention to the detection of the physical signs, and should procure from the Medical School Office a copy of the red book entitled *Instructions in Case-Taking, Surgical*, which he will find a very good guide to sound and systematic examination of the patients.

While he is acting as ward clerk the student attends a course in Elementary Pathology and Pharmacology, and at the same time has unrivalled opportunities of seeing dressings and operations, more especially during his "take-in" week. There will be much hard work and many late hours, but there will be also incalculable compensation in seeing and learning the practical points that will stand him in good stead. He is doing his own work of ward clerk, but must remember that he is learning also to be a dresser.

As a dresser the student spends two periods of three months. While the surgical work is very dependent on the dresser for its smooth efficiency and good results, the dresser must realise that he himself is very dependent upon his work, for it is during these six months that he lays the founda-

tion of his surgical knowledge and sound after-care. Someone has said that every surgeon should be his own dresser, so that the dresser must appreciate the responsibilities that he assumes in thus deputising for his surgeon.

We have said very little about the actual tasks of the dresser; he should read the "standing orders" relative to his appointment, and from then on everything depends upon himself. He has been given a valuable appointment and one difficult to do well, but one that repays hard work almost more than any other appointment he can hold.

MEDICAL WARDS

To each medical ward clerk is allotted a certain number of beds, and he is expected to examine and write full reports on all patients who are admitted into these. Occasionally, it so happens that a patient is too ill to be examined except by the House-Physician and Physician, or that a case dies before the ward clerk has had an opportunity of seeing it. Under these circumstances he should obtain the history and an account of the symptoms, physical signs and progress of the case from the House-Physician, and should base his report on these data. It cannot be too strongly insisted that a report, however brief, must be written on every case, and it is of the greatest importance that *the diagnosis and remarks made by the Physician should be entered at once into the report.* Moreover, any errors detected by the Physician or Registrar in the original report should be immediately corrected. In the event of a patient dying, the ward clerk must obtain the abstract of the post-mortem findings and carefully enter it up, and it need hardly be said that all clerks should make every effort to see the post-mortem examination of any case they may have seen during life.

The medical wards are open to clerks from 10 till 12 noon, and from 1.30 till 6.30 in the evening. The Registrars begin their rounds at 10.30, and by that time a clerk should at least have full notes of the history of any new patient who may have been admitted into one of his beds, and he should have a full report in readiness for the Physician in the afternoon. Ward clerks should realise that they are expected to know the details not only of their own cases, but of every patient under their Physician. It is no excuse to plead ignorance because "this is not my case." If only a clerk will take the trouble to make himself conversant with each case in this way he will find at the end of his six months that an enormous amount of clinical material has passed through his hands, and he will probably have acquired enough knowledge of medicine to enable him to pass the Conjoint Final with but little additional reading. But so many men waste their time through sheer laziness in the medical wards, never realising that they are throwing away experience which would prove invaluable to them later on.

Again, the curriculum provides but six months for the study of pure medicine, whereas nine months are allowed for the pursuit of surgical appointments. Further, during their period of medical clerkship men are apt to take more time than is justified for the study of Pathology and Bacteriology, which they have neglected whilst in the Surgical Wards.

An hour spent in the wards after tea three or four times a week will give opportunities not only for going over cases and writing up reports, but also for seeing the House-Physician tap chests and abdomens, etc. The treatment, too, which each case is receiving, may well be studied at this time.

With the present shortage of beds no opportunity of gaining clinical experience should be missed, and many of the most interesting and important medical cases can be seen at Out-Patients. Nothing is more valuable than seeing the new Out-Patients, writing up their history, examining them and making a diagnosis before they are seen by the Physician.

As regards reading, the best method is to study the text book account of each disease as one comes across it in the wards or in discussion, and afterwards to compare, if possible, the text book description with the symptoms and signs presented by the patients. At the same time the most important medical journals should be read regularly, for by this means only can the student keep himself in touch with modern work. The *B.M.J.* and the *Lancet*, the *Quarterly Journal of Medicine*, as well as the *Journal of the American Medical Association*, are especially recommended.

Books that may be recommended are the following: The well-known text book by Osler, Dr. Poulton's revised edition of Taylor, Dr. Conybeare's new *Text-book of Medicine*, and *Physical Diagnosis* by Cabot. For second three months ward clerks, the most important monographs in Allbutt's or Osler's *System of Medicine* will prove valuable and interesting reading. For laboratory work Hutchinson and Rainey's *Clinical Methods*, or Dr. French's book will be useful.

OBSTETRIC & GYNÆCOLOGICAL WARDS.

After finishing appointments in the Medical and Surgical wards the student is posted to the Obstetric Department for six months. During the latter half of this time he is also at-

tached to the Physician for the Diseases of Children. The Obstetric Dresser is responsible for case-taking in the wards and at Out-Patients, assists at operations, and during one month acts as Extern in the Maternity Charity. The Department has 26 beds reserved for gynæcological cases and 21 for the reception of cases presenting complications in pregnancy, labour and the puerperium and normal labours.

As an intervening link between the Obstetric and Children's Departments is the Salomons Centre, in which the health of mothers and infants is fostered by the practice of preventive medicine. The scope of the work done outside the wards is indicated by the fact that during 1927 2,163 attendances were recorded at Obstetric Out-Patients, while 2,025 women were attended in confinement in their own homes.

With this wealth of clinical material it should be possible for every student to obtain a sound knowledge of methods of diagnosis and treatment founded on no small experience. It is, however, recognised by teachers of Gynæcology and Obstetrics that this desideratum is not always attained. It is undoubtedly true that many a young practitioner has to admit a regrettable ignorance of the ailments which afflict his female patients and of the proper management of the pregnant, parturient and lactating woman. And these subjects form the foundation upon which a successful family practice is built. Responsibility for this sad state of affairs hardly rests with the student, but he will do well if he starts his clinical work with the firm determination to avoid the pitfalls that beset his feet. He must realise that practical experience in diseases peculiar to women cannot be acquired in the space of the three months which he will spend in Queen Ward. As he passes from one appointment to another he must resist the tendency to develop the compartmental mind and must endeavour to cultivate a wide outlook on medicine as a whole.

The study of the physiology and pathology of the functions of woman should be begun at the outset and continued throughout the period of clinical training. The man starting as Surgical Ward Clerk should include among his initial purchases a text book on Gynæcology, for purposes of reference, and should make a point of attending the lectures of the Obstetric Surgeons. He should also avoid no opportunity of acquiring the "tactus eruditus" so essential to the accurate diagnosis of pelvic disorders; the inherent impossibility of permitting a class of students to examine women patients one after the other renders it imperative that this experience be gained over a considerable period of time.

The study of midwifery he may well leave until he becomes an Obstetric Dresser; the art of the accoucheur cannot be learnt from books.

4. Pathology and Bacteriology

PATHOLOGY

WHEN the student has passed the Second Conjoint or M.B. Examination, he is halfway through his medical curriculum, and he should have gained a working knowledge of the functions of the body in health. This knowledge is an essential preliminary to the study of the most important of the medical sciences, viz., Pathology, or the study of the functions of the body in disease. Throughout his life the student, if he continues to study and practise medicine, must ever keep pathology in the foreground. It is desirable, therefore, that the study of pathology be begun as soon as possible and continued throughout a medical career.

The subject is an exceedingly large one, and it is customary to divide it into several sections:—

1. General and Special Pathology;
2. Morbid Anatomy;
3. Morbid Histology;
4. Bacteriology;
5. Chemical Pathology.

Due attention must be paid to each of these branches in proportion to their importance relatively to one another and to clinical medicine and surgery as a whole.

During the pre-clinical period the student must attend classes and demonstrations in elementary pathology, bacteriology and chemical pathology.

During the Autumn, Winter and Spring Terms, systematic lectures and demonstrations in pathology and bacteriology are given. Three lectures and three practical classes are held weekly, the former at 9 a.m. and the latter at 12 noon.

Regular attendance at these classes is imperative, and the attractions of the wards and of clinical work should on no account be allowed to interfere with laboratory studies.

While medical ward clerks, during their tenure of office, should attend classes on chemical pathology, it is essential that throughout all ward appointments no opportunity should be missed of continuing the study of pathology.

Apart from set lectures and classes, students and house-officers are cordially invited to make use of the resources and facilities provided by the laboratories in order to add to their knowledge of

a subject that lies at the root of all successful clinical work.

Every man should, as far as is practicable, follow out the pathology of each and every one of his cases.

Is a bacteriological investigation to be made? He should follow it out as far as possible. Is a portion of tissue removed for microscopical examination? He should see and examine the section. Is a chemical examination demanded? He should endeavour to see the analysis carried out. He should never miss an autopsy on any one of his cases, and should personally cut sections of the diseased organs or tissues for further study and future reference. For use in this connection, a laboratory adjoining the post-mortem room is available at all times. He should make a point of keeping a special note-book in which he can enter the clinical history and progress of a case, the post-mortem findings, if the case comes to autopsy, and the result of his histological examination together with a general review of the case in the light of that further evidence.

Set hours cannot be given for these lines of study; they must be fitted in as time and opportunity permit. In short, efforts should be made to see as much practical work and as many demonstrations in pathology as can be arranged. There are few days when no pathology can be learned. Post-mortems are held nearly every day at 1.30 p.m., except on Wednesdays and Saturdays, when the hours are 12.30 p.m. and 11.30 a.m. respectively. Attendance at these will amply repay the time expended.

Informal classes in Pathology are held three times weekly during the October and May terms. These, though primarily intended for M.B. students, are suitable for, and should be attended by, those sitting for Part I of the M.B.Cantab. and the Final M.B. of Oxford or London University.

During the later clinical appointments certain students may hold a few pathological posts, such as Student Demonstrator, Assistant to the Demonstrators of Morbid Anatomy, Student Assistant in the Bacteriological Department. One or more of these may be held in turn, and they prove exceedingly valuable from the learners' point of view.

There are many books which might be recommended, and what suits one student may not prove attractive to another. The following, however, will prove adequate for all the students' purposes: in Pathology either MacCullum's, Muir's, or Beattie and Dickson's; in Morbid Histology, Donaldson's Handbook, and for Bacteriology either Muir and Ritchie's Manual or Bigger's Handbook.

BACTERIOLOGY

Bacteriology, although for a time regarded by the clinician as affording information of merely academic interest, has now made a most profound impression upon the theory and practice of both medicine and surgery, and by providing specific treatment for many microbial infections has emphasised the necessity and stimulated the demand for exact diagnosis, and it is towards this direction that the student's interest is guided by the class in Practical Bacteriology.

Particular attention is devoted from the first instance to the technique of various investigations undertaken in connection with ward work. Thus the student himself examines sputum, pus and morbid exudates by various methods to demonstrate the associated bacteria. He is instructed in staining methods and the practical work of culture making, and is, moreover, encouraged to repeat for himself during the intervals between successive classes any observations and experiments previously carried out, in order to equip him for the performance in general practice of those more obvious methods of bacteriological diagnosis which experience has shown are both reliable and valuable. Demonstrations are also given upon the life history of the most important of the organisms which are pathogenic to the human race, and by the study of "pure cultures" an attempt is made to impress the chief characteristics of each upon the mind of the student, whilst the changes such organisms undergo or produce when they gain entrance to the human tissues are carefully emphasised.

Throughout the course considerable stress is laid on the further applications of bacteriology to treatment, including the use of various remedial agents such as sera and vaccines, which have been elaborated in the bacteriological laboratory for the treatment of disease, together with those facts and theories relating to natural and acquired immunity upon which bacteriological therapy is based.

5. The Special Departments

THE CHILDREN'S DEPARTMENT

In-Patient Accommodation—Dr. Cameron has under his care 14 cots in the Children's Ward. On two days in the week, at present on Tuesdays and Thursdays at 2 p.m., Dr. Cameron goes round the ward and gives clinical instruction.

Out-Patient Department—Children under 10 years of age are seen in the Children's Department at Out-Patients on Mondays, Wednesdays and Fridays from 9.30 until 1 o'clock. Dr. Cameron attends on Mondays and Fridays at 10 a.m., when clinical instruction is given.

The Salomons Centre is for the care of the mothers and children of the Midwifery Charity; attendances at the Centre are made by dressers in the Obstetric Department.

OTO-RHINO-LARYNGOLOGICAL DEPARTMENT

This Department is organised on the unit system. There are two units, one under the care of Mr. Mollison, the other of Mr. Layton. Patients are seen in the Out-Patient Department, admitted when necessary to the special wards, Dorcas and Christopher, and returned to the Out-Patient Department. This arrangement allows members of each unit to follow up the cases. Mr. Mollison's firm sees out-patients on Tuesdays and Fridays at 11.30 a.m., Mr. Layton's on Mondays at 9 a.m., and Thursdays at 11.30 a.m.

Dressers are appointed to the respective firms, and have every opportunity of becoming expert in the technique of examination of the ear, nose and throat, and of gaining experience in diagnosis and treatment. Large numbers of school children are seen. Minor operations are performed in the Out-Patient Department; these include, amongst others, operation for the removal of nasal and aural polypi, and of tonsils and adenoids, and for the lavage of the maxillary antrum; these operations are performed under the supervision of the Surgeon or the Clinical Assistant.

Twenty-seven beds and six cots are now allotted to the Department, and each firm operates twice a week. Mr. Mollison and Mr. Layton "take-in" during alternate weeks, and emergencies are admitted under the care of the firm on duty.

THE OPHTHALMIC DEPARTMENT

The Ophthalmic Department of the Hospital is in charge of the three Ophthalmic Surgeons. They are helped by three Assistants, one House Surgeon and Dressers. The Dressers are appointed four times a year for a period of three months, and assist the Surgeons at Out-Patients and at operations, and are responsible for the recording of the cases both in the wards and at Out-Patients. The Ophthalmic Department is an open field for any student to explore as far as he is willing and able, the amount of clinical work being sufficiently great for him to see all the more ordinary and common diseases of the eye in the space of three months.

The student will soon find that he is quite unable to form any opinion of his own on an ophthalmic case until he has mastered the use of the ophthalmoscope and can readily and accurately decide what is the refraction of the eye, and if the "fundus oculi" is healthy and normal. The theory of retinoscopy can be taught and is simple; the practice, however, requires constant application by the student before he can hope to obtain any sort of facility in it. The difficulties are mainly initial ones, and any time and trouble expended in mastering them will well repay any man in after life when he has qualified and is in practice.

MEDICO-NEUROLOGICAL CLINIC

Advanced Ward Teaching for Post-Graduates and Students is given on Tuesdays at 2.15 p.m., starting October 8th; Drs. Hurst, Marshall, Symonds, Gillespie and Witts meet in Mary Ward for the combined round at which a discussion is held on a series of cases.

NEUROLOGICAL DEPARTMENT

This Department is under the direction of Dr. C. P. Symonds and now provides facilities for a full three months clerkship, which offers excellent opportunities to those who desire practical experience in one of the most difficult branches of medicine. Wednesday and Saturday mornings are devoted to Out-Patient work; Dr. Symonds holds a teaching round on Thursday mornings in the Eye Ward, while the Registrar usually goes round on Tuesdays and also supervises the operation of lumbar puncture on out-patients selected for that test.

DEPARTMENT OF PSYCHOLOGICAL MEDICINE

Now separated from the Neurological Department and providing a full three months course of Clinical tuition. In addition to Lectures and Clinical Demonstrations held at a mental hospital during the summer term, Dr. R. D. Gillespie is also responsible for a series of addresses on Normal Psychology during the spring session. Out-patients are seen on Wednesday and Saturday mornings.

THE DERMATOLOGICAL DEPARTMENT

Out-Patient Days—Mondays, New Cases, 11.30 a.m. Old Cases, 12 noon.

Tuesdays, New Cases, 9.30 a.m. (children); 10 a.m. (adults). Old Cases, 1.30 p.m.

Thursdays, New Cases, 9 a.m.; Old Cases, 9.30 a.m.

Wards—There are three male and three female beds in the Eye Wards for Dermatological cases requiring careful supervision or treatment in bed.

Instruction in the diagnosis and treatment of diseases of the skin is given in the Out-Patient Department, and clinical demonstrations on selected cases are held from time to time.

THE GENITO-URINARY AND ORTHOPÆDIC DEPARTMENTS

These two appointments are now taken together, and have a common House Surgeon. Students acting as Dressers in the Genito-Urinary Department have excellent opportunities of acquiring knowledge which will be useful to them in actual practice and examinations. Out-Patients are seen on Tuesday and Friday afternoons.

The Department has 7 male in-patient beds in Christopher, 2 female beds in Queen, and 1 cot in Evelyn.

Students should realise that their attendance at this Out-Patient Department, though not compulsory, is very necessary, as is evidenced by the very advanced state of disease in which some patients arrive for examination.

The Orthopædic Department comprises a large out-patient clinic and a number of beds devoted to patients suffering from deformity. Out-patients are seen on Monday and Wednesday afternoons, and Minor Operations performed on Friday afternoon, and in the Out-Patient Department the student will meet with every variety of deformity, congenital and acquired. Considerable facilities are afforded for experience in the relief and cure of all chronic diseases of bones, joints, muscles, etc. Instruction in the principles and most modern practice in the use of appliances, plaster technique, and the more useful forms of Physio-Therapy is given by Mr. Trethowan, the Orthopædic Surgeon, and Mr. Lambrinudi, the Assistant Orthopædic Surgeon. Numerous operations of a minor nature are done, such as manipulations for stiff and painful joints, correction of misshapen and rickety limbs, correction of scoliosis and immobilisation of tuberculous joints.

The in-patient beds are devoted to the most serious operative cases, such as extensive tendon transplantations, correction of malunited fractures, bone-grafting, the making of new joints, etc. Guy's is a pioneer hospital in possessing an excellent workshop for the manufacture of every form of splint and appliance.

It is in the Orthopædic Department that the principles underlying the mechanical disabilities of the limbs and spine are emphasised and their explanation made clear, and the experience to be gained here is invaluable. The great utility of orthopædic surgery has become evident to very many during the war.

THE MASSAGE DEPARTMENT

The New Department is now in full working order, and patients are treated between the hours of 2.30 p.m. and 4.30 p.m. on Mondays, Tuesdays, Thursdays and Fridays, and between 9.30 a.m. and 12 noon on Wednesdays and Saturdays.

The point of interest to Medical Students is to see the work carried out on patients by Massage and Medical Gymnastics. A large variety of cases are being treated daily, which include fractures, stiff joints, dislocations, nerve injuries and disease, lung and heart disease, congenital conditions and poor development in children, etc.

THE TUBERCULOSIS DEPARTMENT

The Tuberculosis Department is a reference Department for out-patients suffering from diseases of the chest. Patients attend on two days a week, Thursday afternoons and Monday evenings. For suitable cases arrangements are made for admission to sanatoria. The patients return to the Out-Patient Department after leaving the sanatorium. The Department provides extensive opportunities for studying methods of investigating early and doubtful cases of pulmonary tuberculosis, also for observing special forms of treatment such as artificial pneumo-thorax. A special appointment is now connected with this Department.

THE DEPARTMENT FOR VENEREAL DISEASES

This Department, which was reorganised and greatly enlarged a year ago, is now open from 9 a.m. to 8 p.m. on all week days, and from 10 to 12 noon on Bank Holidays.

Treatment is carried out for all venereal diseases in women, men and children, and patients may be referred from other departments at any of these times.

The total number of attendances during the last twelve months was 35,000.

Students may attend the male section any evening from 5 p.m. to 7 p.m., and Dressers in the Gynæcological Department may attend the female section on Mondays from 5 p.m. to 7 p.m. or Wednesdays from 2 p.m. to 5 p.m.

Demonstrations are held on Thursdays at 5 p.m. in the Demonstration Theatre in this Department.

Five Dressers are appointed to the Department every three months.

PRACTICAL PHARMACY, MATERIA MEDICA, AND DISPENSING

One of the many important things all medical students must know is how to write a prescription. It may even be necessary for the majority, when qualified, to be able to dispense the same. All students, therefore, would be well advised to acquire as much knowledge of the subject as they can.

The student is taught, practically, how to dispense the different medicinal preparations; he

learns to write prescriptions, due regard being paid to doses and incompatibilities.

The recognition of crude drugs, their active principles and preparations form part of the course, which is conducted by the Hospital Pharmacist and covers the syllabus of the Practical Pharmacy of the Conjoint, 2nd M.B. London, 2nd M.B. Camb. (Part III) and the 2nd B.M. Oxford.

ELECTRICAL AND ACTINOTHERAPEUTIC DEPARTMENT

The treatments carried out in this Department include the following: diathermy, high frequency, the application of the constant, faradic and sinusoidal currents, radiant heat, and static electricity, treatment by the Finsen and mercury vapour lamps and radiotherapy.

A special Department has recently been opened for artificial sunlight treatment.

A large number of cases are treated in the Department: Chronic joint conditions, nerve injuries, wasted muscles, skin diseases such as ringworm, psoriasis, eczema and rodent ulcer. There are also a large number of cases of malignant disease undergoing treatment with X-rays and radium.

FRACTURE DEPARTMENT

This Department deals with all fracture cases which are treated as out-patients throughout; they attend on Thursday afternoons at 1 p.m. The appointment of dresser in this Department is a useful one, and is usually held concurrently with one of the later appointments that a student can obtain. Much experience in the treatment of uncomplicated fractures is obtained; at the end of the afternoon, plasters are applied to or removed from the various patients seen.

6. Books

ADVICE on this matter is extremely difficult to give, for individual needs are almost as varied as the length of individual pockets, and the adornment of a virgin bookshelf is bound to depend on both these factors. Except in the case of certain essentials for routine work, such as the dissecting room manuals, it is perhaps better to postpone the inevitable visit to the bookseller and first to consult the various tutors and demonstrators in the subjects concerned. They will be more than willing to extend any suggestions made under various headings in this issue of the GAZETTE, and their experience will enable them to advise that blend of old and new best fitted to the individual case.

The rapid advance in medical knowledge unfortunately renders the second-hand book almost worthless except in the case of Anatomy, where the advances, though many and real, are not apt to be so revolutionary as in Physiology and Medicine itself. A Physiological text book probably becomes out of date in less than a year, a text book of Medicine in two or three years at least, so that in these subjects at any rate recent editions are essential.

All that is most distinctive in current Guy's teaching is to be found in the *Guy's Hospital Reports*, which contains articles written for the most part by members of the Hospital Staff. The unqualified man has the special privilege of purchase at a much reduced price, an advantage that he will be wise not to neglect.

A great number of publishers are responsible for medical books, and a just estimation of the rival claims for their various productions is quite beyond the scope of this article. Mr. Humphrey Milford at the Oxford University Press offers a wide range of medical works of uniform excellence in subject matter, binding and printing. Messrs. Churchill publish Taylor, Gask and Wilson, the new *Recent Advances Series*, and many other well known works. E. & S. Livingstone of Edinburgh present books containing the valuable teaching that emanates from both sides of the Tweed; a recent noteworthy addition is *A Text-book of Medicine*, by J. J. Conybeare. They also cater for the hard-pressed student in an extensive *Catechism Series*, intended to aid his last minute revision. Baillière, Tindall & Cox are responsible for the large Rose and Carless and a small synopsis series in their well-known *Aids*. Many splendid books are published by John Murray, Faber & Gwyer, Ltd., Cassell & Co., Longmans, Green & Co., Macmillan & Co., John Bale, Sons & Danielsson, Edward Arnold, and Constable, while Lewis of Gower Street sponsors a number of books having a specialist flavour—such as Rawling's *Surface Markings* and Martindale's *Extra Pharmacopœia*, to select at random. Messrs Lewis also run an excellent medical circulating library, which should prove invaluable to the student who wishes to dip briefly into all the latest books. This is assisted by reference to their catalogues, which can, if desired, be purchased. Messrs. Foyle, of Charing Cross Road, specialise in second-hand books and also in those on sporting, as distinct from scientific subjects.

Mr. H. H. Grattan, in the Borough High Street, is the official bookseller to the Hospital, and is able to supply most of the books in common demand over the counter; any others he can be relied upon to obtain as quickly as possible.

To The Dental Student

By Arthur Bulleid, M.R.C.S., L.R.C.P., L.D.S., Assistant Dental Surgeon

MR. MONTAGU F. HOPSON, Consulting Dental Surgeon to the Hospital, once prefaced an article in the *Guy's Gazette*, in which he welcomed the new dental student, with these words: "It is always a silly thing to give advice, and to give good advice is fatal." Therefore, in this short article, I do not intend to offer much advice, but would content myself with offering on behalf of the Dental Staff of the Hospital a very hearty welcome to the newcomer.

It should not take him long to settle down and to become imbued with the Guy's "spirit" which is the pride of all Guy's men, whether past or present.

Like his medical confrere the dental student will soon realise that he is a cog in the wheel of the Hospital mechanism, and that in course of time will become as essential to the Hospital as the Hospital is to him. He will find that the Dental School is, after all, only a department of the Hospital, but it is a very important one, and this importance is increasing as the years go by. He will also soon find out that he has ample time for both work and play, and that he can soon take his place in the life of the Hospital and so all the more quickly realise the inestimable advantages he has obtained by joining a dental school which is housed within a large general hospital.

At first, there must naturally be a slight feeling of strangeness, possibly a little nervousness, at the extent of the curriculum he has to face, but he will soon find the authorities have drawn it up with due care and consideration for his well being. Of course, in order to do well the student will have to work hard, but nothing that is worth while is ever obtained in any other way. The dental department is proud of its work, and its record, and it is the hope of the writer that both will be enhanced by the new entry of dental students.

That the sphere of dental surgery has become much wider than it used to be there is no denying, and, therefore, the new student will find that he has to acquire a knowledge of some subjects that were formerly considered unnecessary. He will find that dental surgery is a branch of general medicine, and that a wider knowledge of the diseases of the teeth and supporting structures is now necessary owing to the bearing they have on the general health.

It is because of this that I would offer my own piece of advice to the new student now entering the Dental School. If it is possible, take both the Medical and Dental Diplomas and so obtain a wider range of knowledge than is possible by taking the Dental Diploma only.

It means more time and more money, but I say without hesitation, that it is well worth both. A much better grasp of the many problems he will have to deal with later will be gained, and, in addition, in discussing such problems with his medical confrere he will be able to speak "with more authority."

Finally, I would say that the Staff are always willing to give what help they can, and to encourage the student in his work and play. It will not be long before the new student coming to the Hospital for the first time, realises that in joining Guy's he has joined a Hospital which boasts the most up-to-date and best equipped dental department in the kingdom.

The Dental Curriculum

THE Dental Student is supplied at the Medical School Office with the Prospectus, Standing Orders, List of Instruments, Calendar and Clubs' Union Book.

These pamphlets should be carefully read in order that acquaintance may be made with the general arrangements of the School and the scope of the work upon which the student will become engaged.

Notices regarding the time and place of Lectures are to be found posted up by the main entrance of the Dental Department.

Instruments having been purchased at a dental depot, the student should satisfy himself that he has been supplied with all of those described in the Hospital list, and have them inspected by his demonstrator.

It is inadvisable to purchase instruments before they are required. Instruments for prosthetic work are required for the B.D.S. course at the commencement of the second year, and for the L.D.S. course at the commencement of the first year. Clinical instruments are required for the B.D.S. course at the commencement of the fifth year, and for the L.D.S. course at the commencement of the third year.

Among the various depots at which instruments may be purchased are the following: The Amalgamated Dental Co., Broad Street, Golden Square, W.C., and 16, St. Thomas's Street, S.E.1; The Dental Manufacturing Co., Alston House, Newman Street, W.; Cottrell & Co., 15–17, Charlotte Street, W.1, and L. Porro, Ltd., 33, New Cavendish Street, W.1.

The course of study for the B.D.S. London covers a period of five years, of which the first year consists of Physics, Inorganic Chemistry and Biology. The second year is occupied with the study of General and Dental Anatomy, Physiology, Pharmacology and Dental Prosthetics. The study of these subjects is also continued in the third year, together with Pathology, Bacteriology and Surgery. Clinical work in the wards, Surgery, Medicine, Anæsthetics, Pathology and Bacteriology, together with Dressership in the Extraction Rooms, Dental Metallurgy and Dental Prosthetics constitute the fourth year's work, and the fifth year is occupied by purely Dental subjects, these being Clinical work in the Conservation Room, Orthodontics, Operative Dental Surgery and Dental Surgery and Pathology.

L.D.S. students who come under the New Regulations must pass the Pre-Medical Examination in Chemistry and Physics before they can commence their four years' course. Subsequently, their first term is devoted to Dental Mechanics and Elementary Anatomy and Physiology, and it is important that the student gets a good grounding in the former at this early stage. During the remainder of the first year the student continues his work in these subjects and takes Part III(*a*) of the First Professional Examination at the end of the period. In his second year he studies Dental Metallurgy and completes his training in Dental Mechanics. In his third term of this year he attends Lectures on Dental Anatomy.

Third year students for the L.D.S. commence the Clinical courses with a period of probationary work upon the phantom head. The operative course, conducted by a Staff demonstrator, is very comprehensive. It includes most of the operations that the student will subsequently be called upon to perform upon patients, namely, gold and other fillings, crowns, inlays and the treatment of devitalised and septic teeth. These operations upon the dummy form an excellent ground work in operative dentistry.

Thereafter the course of work consists in holding and diligently carrying out the work of the following appointments: *Probationer Dressership in the Conservation Room; *Dressership in the Conservation Room; *Dressership in the Children's Department; Dressership in the Ordinary Extraction Room; Dressership in the Gas Extraction Room; Casualty Dressership; Clerk to Anæsthetist.

A student, apart from those holding the post of Assistant Dental House Surgeon, is not allowed to work in the Conservation Room unless he holds one of the appointments marked *.

The Dental Anatomy and Physiology examination is taken in the second term of his third year.

An optional X-ray course may be taken by the student in his final year.

The time varies, according to whether the course for the B.D.S. or L.D.S. is being taken, at which a student will come into actual contact with Hospital patients, but he should always endeavour to be punctual in his appointments with them. There is nothing more irritating and annoying to a patient than to be kept waiting unnecessarily; it also delays to a very great extent the easy working of the Department.

Further, the student should remember that the cultivation of a courteous and gentle manner towards all patients will become in the future probably the greatest asset in his private practice.

*Courses on Gingival Hygiene, local anæsthesia, and fourth year demonstration in operative dental surgery will also be attended.

Guy's Hospital Biennial Dinner

The following have given notice that they intend to be present :—

1854—1889

1854 Dixon, J.
1873 Nash, W. G.
1876 Oram, R. R. W.
1877 Bowen-Jones, L. M.
1878 Symonds, Sir Charters.
1879 Hale-White, Sir William.
Howell, T. A. I.

1880 Ashwell, H. G.
1882 Pollard, G. S.
Gibson, J. H.
1885 Greene, A.
Bishopp, F. R. B.
1886 Beard, F.

1886 Alexander, Sir Sydney.
1887 Browne, Robley.
Holloway, S. F.
1888 Le Feuvre, W. P.
1889 Black, J.
Rouw, R. Wynne.

1890—1899

1890 Stevens, T. G.
Fawcett, J.
1891 Craig, Sir Maurice.
Jewell, J. W. F.
Hopson, M. F.
1892 Floyd, S. G.
Bolus, H. B.
Landon, E. E. B.
1893 Pendred, V.
Eyre, J.

1894 Hovenden, A. C.
Hovenden, G. S.
1895 Handley, C. S.
Clarke, A. V.
1896 Spicer, A. H.
Rowlands, R. P.
Howe, A. F. A.
Garland, J. O.
Ormond, A. W.

1897 Way, M.
Canning, H. A. E.
1898 Moore, P. W.
Eason, H. L.
Turner, P.
Swan, R. H. J.
1899 Kirkman, A. H. B.
Miller, A.
Lewin-Payne. J.

1900—1909

1900 Brydone, J. M.
Parrott, H. McD.
Roper, R.
1901 Atkins, Sir John.
Willan, G. T.
1902 Odgers, P. N. B.
Jackson, F. D. S.
Griffin, E. H.
Shipway, Sir Francis.
Forsyth, D.
Pinching, C.
1904 Mollison, W. M.

1904 Hurst, A. F.
Morton-Palmer, F. W.
Ticehurst, G. A.
Hughes, E. C.
1905 Cameron, H. C.
McBride, J.
Payne, O. V.
Crofts, A. D.
Hardy, G. F.
1906 Trethowan, W. H.
Morton-Palmer, A. S.
Stebbing, G. F.

1907 Ripman, C. H.
Samuel, B.
1908 Malleson, H. C.
Mandel, L.
Denning, A. F. W.
Price, P. S.
1909 Mitchell, D. A.
Carlill, H.
Johnston, J. L.
Attwater, H. L.
Brook, J.
Browning, S. H.

1910—1919

1910 Yerbury, E. O.
Elliott, E. L.
Adams, F. S.
1911 Slesinger, E. G.
Cook, F.
Glendining, V.
Steinbach, H.
1912 George, W. S.
Cole, T. P.
Keith, T. Skene.
Jepson, A. C.
Genge-Andrews, G. E.
1913 Lane-Roberts, C.

1913 Leigh, H. V.
Scott, F. D.
Mather, H.
Garrard, E.
Ryle, J. A.
Wright, L. D.
Eccles, G. D.
Tanner, W. E.
1914 Messenger, H. L.
MacManus, D.
Pedley, C. F.
Boswell, P. R.
Broster, L. R.

1915 Curle, R.
Knott, F. A.
Parry-Price, H.
Bates, K. L.
Symonds, C. P.
Sells, R.
1916 Wacher, H. S.
Jones, J. G.
1917 Long, H. O.
1918 Millett, H.
1919 Payne, W. W.
Lansdown, R. B. P.

1920—1929

1920 Crisp, E. J.
Doherty, W. D.
Canning, H. G. R.
1921 Douthwaite, A. H.
Shaw, M.
1922 Laver, B. L.
Hale-White, R.
Williams, P. H.
Stoker, G. H.
1923 Witts, L. J.
Linklater, J.
Lloyd, J. E.

1923 Boness, W. L.
Chambers, R. S.
Lloyd, N. L.
Walker, F. A.
1924 Cann, L. W.
Baylis, H. P.
1925 Skeals, P. B.
Worthington, C.
Jago, M. E. M.
Way, J.
Fawkes, R. B.
1926 Marshall, C. W.

1926 Ettles, D. C. McC.
Grasby, E. D.
De Bruyne, R. S.
Greenwood, E. J.
1928 The President of the Residents.
Stamm, T. T.
Blaikley, J. B.
O'Donoghue, R. J.
1929 Frost, Captain, I.M.S.
Fitch, Captain, I.M.S.
Cotton, W. J.

Dental students will profit by following the practice of the Special Departments of the Hospital, *e.g.*, Eye, Throat, Ear. They will also have numerous opportunities of observing the more remote effects of dental disorders in the General Wards and Out-Patient Department.

Students in difficulties about their work and needing advice are invited to consult the Dean, Sub-Dean, Senior Dental Officer or any other member of the Staff, who will be pleased to do what they can to promote their interests.

The Pupils' Physical Society, 1929-30

By N. L. Eckhoff, M.S., F.R.C.S.

Hon. President—Sir Charters Symonds, K.B.E., C.B., M.S.

Hon. Vive-Presidents—Sir William Hale-White, K.B.E., M.D.; Sir W. Arbuthnot Lane, Bart., C.B., M.S.; John Fawcett, M.D.

Presidents—W. L. Bigby; P. M. F. Bishop; J. B. Blaikley; R. S. Bruce-Pearson; F. E. Camps; S. M. Cohen; E. T. Conybeare; J. Croot; W. J. Ferguson; R. Glanville; H. N. W. Harley; W. D. G. Jones; P. V. Reading; C. K. Simpson; D. B. Smallshaw.

Hon. Secretaries—N. L. Eckhoff, M.S., F.R.C.S.; A. C. Hampson, M.D., M.R.C.P.

THE Pupils' Physical Society is a direct descendant of the older Physical Society founded in 1771, and which was one of London's oldest Medical Societies, The minute books of the Society are preserved in the Wills Library, and thanks to a recent discovery of some missing volumes, the records are practically complete right back to this early date. The older organisation ceased to exist in 1852, partly owing to the competition of the Medical and Chirurgical Society—now the Royal Society of Medicine—which was founded in 1805.

The Pupils' Physical Society was originally started in 1830 as a purely Student's Society for the discussion of subjects of medical and surgical importance, for the showing of interesting cases, and for the reading of papers. The functions of the Society are the same to-day as they were a century ago, and it cannot be too strongly emphasised that it is essentially a student's organisation. It's members are the members of the Clubs' Union. It is managed by a committee consisting of not more than 16 Presidents, elected by the Society from among the senior students and house officers, and the two Honorary Secretaries.

The meetings are held, as far as possible, on alternate Thursday evenings during the winter months. The programme for the coming session, 1929–1930, is herewith presented, and it is hoped that the newer students will study it and reserve these dates. No meeting can be singled out as being more interesting than the others. The clinical and pathological meetings give opportunity for showing cases and specimens that otherwise might be missed, and it is no exaggeration to say that the best cases in the Hospital are to be seen collected together on these occasions only.

The combined meetings with the Medical and Physical Society of St. Thomas's Hospital, and with our own Physiological Society are always well attended, and the discussions that follow these meetings are amusing and stimulating. The papers that are read before the Society represent the outcome of much personal study, and should never be missed.

All members of the Clubs' Union are invited to take a personal share in the activities of the Society in this the centenary year of it's existence, which promises to equal, if not surpass, all previous years.

Programme, 1929–1930.

1929.	
Tues., Oct. 1	3 p.m. Opening Address (combined with the opening address to the Medical School), by Sir Humphry Rolleston, Bart., G.C.V.O., M.D. Subject: "Medical Societies as Educational Factors."
Thurs., Oct. 17	8 p.m. Clinical and Pathological Meeting. Chairman: Mr. Bigby.
Thurs., Oct. 31	8 p.m. Clinical and Pathological Meeting. Chairman: Mr. Bishop.
Tues., Nov. 19	8 p.m. At St. Thomas's Hospital. Joint Meeting with the Medical and Physical Society of St. Thomas's Hospital.
Thurs., Nov. 28	8 p.m. Paper by Mr. J. T. Irving. "Physiology in the XIXth Century." Chairman: Mr. Blaikley.
Thurs., Dec. 12	8 p.m. Clinical and Pathological Meeting. Chairman: Mr. Bruce-Pearson.
1930.	
Thurs., Jan. 9	8 p.m. Clinical and Pathological Meeting. Chairman: Mr. Camps.
Thurs., Jan. 23	8 p.m. Clinical and Pathological Meeting. Chairman: Mr. Cohen.
Tues., Feb. 4	4.45 p.m. Joint Meeting with the Guy's Hospital Physiological Society. Subject not yet arranged. Chairman: Mr. Conybeare.

Thurs., Feb. 20	8 p.m. At Guy's. Joint Meeting with the Medical and Physical Society of St. Thomas's Hospital. Chairman: Mr. Croot.
Thurs., Mar. 6	8 p.m. Paper by Mr. C. K. Simpson. "Chronic Mastitis." Chairman: Mr. Ferguson.
Thurs., Mar. 20	8 p.m. Clinical and Pathological Meeting. Chairman: Mr. Glanville.
Thurs., April 7	8 p.m. Clinical and Pathological Meeting. Chairman: Mr. Harley.
Thurs., April 13	8 p.m. Reading of the Treasurer's Prize Essay. The subject will be: "The factors influencing the drainage of the serous cavities, including the arachnoid space." Chairman: Mr. Jones.

THE SOCIETY'S PRIZES

In addition to the Treasurer's Prize, the following prizes are awarded by the Society:—

A prize of £10 for the best paper read before the Society during the Session.

A prize of £5 for the member who most distinguishes himself in the Discussions.

A prize of £5 for the member who exhibits the best specimens of sientific interest during the Session.

The Physiological Society

By J. C. Colbeck

President—M. S. Pembrey, M.A., M.D., F.R.S.

Vice-Presidents—E. C. Hughes, O.B.E., M.Ch.; T. B. Johnston, M.B., Ch.B.; E. P. Poulton, M.D.; J. A. Ryle, M.D.; J. M. H. Campbell, M.D.; T. J. Evans, M.A.; A. C. Hampson, M.B., M.R.C.P.; G. Marshall, O.B.E., M.D.; E. C. Warner, M.B., B.S.; F. N. Doubleday, L.D.S.; W. R. Spurrell, M.B., M.S.; J. T. Irving, B.A., D.Ph.

Hon. Sec. and Treasurer—J. C. Colbeck.

Committee—L. R. L. Edwards; B. McArdle; R. A. Q. Lay; M. S. McArdle; R. Symmons; E. H. de B. Crowther-Smith.

THE Physiological Society was founded in 1901, its object being "to encourage physiological studies and to encourage interest in allied sciences." This Society is managed entirely by students, and membership is open to all past and present students of the Hospital. A Secretary and a Committee of six, representative of every year of students, are elected annually.

Papers are read throughout the winter session, and the Chair is taken by the President, or one of the Vice-Presidents. The papers, except in a few isolated instances, are read by students, and after the reading of the papers there is a general discussion. It is a proud boast of the Society that every speaker, whoever he may be, may be called upon to justify his statements or to suffer criticism if he fail. Here men learn not "to quote their authors, nor believe a thing because they say it," but to examine critically the evidence before them. This, and an ability to receive such criticism, and reply to it, without personal animosity, is a lesson hardly to be learnt elsewhere.

The papers, and equally the discussions, bring before the students the recent advances in physiology, and also afford ample opportunity for discussion as to their validity. It also serves another very useful purpose in that it fills some of those gaps which still remain in the text-books of physiology; a man may know his text-books and yet be more ignorant than an old wife concerning such phenomena as sleep and reproduction. The "allied sciences," such as eugenics and sociology, yield many interesting discussions. The importance of some understanding of such subjects on which medical men are frequently asked to express their opinion, is obvious.

Owing to the fact that the chairmen and clinicians and that many clinical students assist at the discussions, the meetings serve in the correlation of physiology with medicine and pathology.

It should not be thought, however, that the meetings are ponderous or uninteresting. The prospect of being amused or the desire to criticise the reader of the paper are probably the reasons for the attendance of the majority at the meetings. The number of "free" teas and "free" tobacco and cigarettes is also computed by some as a good economic investment.

The season 1928–1929 was particularly successful. Thirteen meetings were held and these were well attended. This is a considerable increase on previous years, the average number of meetings held each season being nine.

The following is a list of the meetings:—

"The Expression of Emotions," by M. S. McArdle.

"The Use and Abuse of Tobacco," by G. Gilchrist.

"Vivisection," by W. S. Pitt-Payne.

"The Significance of Pain," by R. L. Soper.

Debate with University College Physiological Society. R. A. Q. Lay and C. B. R. Pollock.

"Useless Organs," by W. Stamm.

"Secretin," by D. McGregor
"Blood Pressure and Hyperpiesis," by J. C. Colbeck and J. B. Blaikley.
"Blood Transfusion," by C. H. Rogerson.
"Maternal Impressions," by J. Tudor.
"The Physiology of Training," by C. B. R. Pollock and I. A. Cathie.
"The Cerebro-Spinal Fluid," by W. J. Ferguson.
"Recent advances in Human and Animal Metabolism," by Professor F. G. Benedict (Director of Nutrition Laboratory, Washington).

The keenness of the Society is further shown by the holding of a Physiological Society Dinner for the first time for fifteen years, and its success was such as to justify its reinstitution as an annual event.

All first year men, and all those who are studying physiology should attend the general meeting, the date of which will be announced later.

Guy's Dental Society

President—F. N. Doubleday, Esq., L.R.C.P., M.R.C.S., L.D.S.

Vice-Presidents—E. B. Dowsett, Esq., D.S.O., L.R.C.P., M.R.C.S., L.D.S.; K. Hooper, Esq., L.D.S.; W. Kelsey Fry, Esq., M.C., L.R.C.P., M.R.C.S., L.D.S.; E. A. Lloyd, Esq., L.D.S.

Hon. Treasurer—G. S. Loader.

Hon. Secretary—S. C. Holms.

Dental Correspondent—A. G. Taylor.

Committee—First year, not yet elected; Second year, R. J. Eustace; Third year, T. W. E. Pugh; Fourth year, J. C. McNeill; Any year, R. Smithurst.

Past Hon. Secretary—D. S. Clogg, Esq., L.D.S.

THIS Society was founded 35 years ago, since when it has grown up into one of the most flourishing institutions at the Hospital.

Ten papers upon dental and allied subjects were read to the Society last season, and the animated discussion which followed each paper afforded the members much practice in public speaking, which is one of the many advantages of attending these most interesting meetings.

The papers read were as follows:—

(1) "The Construction of the Porcelain Jacket Crown," by Mr. K. Hooper.

(2) "The Primary Lesion in so-called Pyorrhœa Alveolaris," by Mr. Warwick James and Dr. Arthur Counsell.

(3) "The Business Side of Dental Practice," by Mr. E. B. Dowsett.

(4) "Diet in Relation to Dental Disease," by Mr. G. P. Palmer.

(5) "Injection Anæsthesia," by Mr. A. G. Taylor.

(6) A Special Meeting at U.C.H. Dental School; a discussion on "The Merits and Demerits of Pulpless Teeth." Mr. C. S. Henderson put forward the motion on the demerit side.

(7) "Some Remarks of Dental Interest," by Mr. D. W. C. Northfield.

(8) "Impression Taking and Materials," by Mr. D. S. Clogg.

(9) "Fractures of the Mandible," by Mr. C. A. Palk.

(10) "Root-canal Work and Apicectomies," by Mr. G. G. Exner.

Besides these, the following four casual communications were submitted during the season:—

(1) "A Supernumerary in the Molar Region," by Mr. A. G. Taylor.

(2) "A Case of Abnormal Relationship between the Maxilla and Mandible," by Mr. D. S. Clogg.

(3) "A Dilated Composite Odontome," by Mr. R. Symmons.

(4) The suggested use of Salicylic Acid in Dental Surgery," by Mr. G. B. Palmer.

The prize for the best paper was awarded to Mr. G. B. Palmer on "Diet in Relation to Dental Disease," while Mr. D. S. Clogg on "A Case of Abnormal Relationship between the Maxilla and Mandible," won the prize for the best casual communication.

An average attendance of 67 members gave much encouragement to those who arranged the meetings. In spite of this high average, it was noticed that there was an even greater attendance at the tea provided before each meeting in the Physiological Laboratory. It is hoped, however, that during this season, all members of every year will take part in both the events, thus gaining for themselves much food for both body and soul.

The Society's Annual Dinner, at the Hotel Cecil, was a great success. There were 286 members and guests present, and entertainment was provided by Mr. Greenway's Orchestra, and the Lomax Brothers.

The Annual Dinner next year will be held on Saturday, March 1st, in the New Empire Rooms of the Trocadero Restaurant, but a further announcement will be made in a later issue of the *Gazette*.

The first meeting of this season will be held in the Physiological Theatre, on Tuesday, October 8th at 5 o'clock, when the President, Mr. F. N. Doubleday, will speak on "Ethics."

Guy's Hospital Chapel

THE Chapel at Guy's certainly does not thrust itself ostentatiously upon the notice of the newcomer, but it exists nevertheless. Those who boldly open the door under the clock in the front square will find it. It is embedded in Matron's House, which flanks it on either side and covers the roof as well. It is square, without an apse, and with galleries round three sides, being technically described, we believe, as a "drawing-room Chapel of the Georgian Period." An impression of a sort of apse, indeed, has been artificially and undesignedly created by the erection of an organ in one corner and a vestry in the other. This has the disadvantage of partially obscuring the design of the Colonnade, which was clearly intended to be a feature of the building. It is possible that these encroachments will be removed in the execution of a scheme of redecoration and improvement which is afoot. The stained glass windows commemorate William Hunt, the founder of the Medical Wards. The mosaics and panels are a memorial to all those who have died in the Medical Service of the Hospital since 1867.

Various others are recalled by brasses in various parts of the Chapel and in the Lobby. The most interesting of these are those of W. E. Gladstone, a Governor for 63 years, Sir Astley Cooper and Sir William Gull. But the best known feature of our little Chapel is the really noteworthy monument to our Founder, Thomas Guy, which faces the altar. Here is Guy in Court dress of the period relieving a suffering man, while in the background is to be seen an actual model of the Quadrangle and Colonnade Steps outside, with porters engaged in stretcher bearing. The inscription on the monument is well worth studying as a good example of the somewhat florid testimonials which characterised such literature in the Eighteenth century, and as a record of certain facts apt to be forgotten.

An extensive crypt contains the Founder's tomb, for the remains of Thomas Guy were translated across the street from their original resting place beneath St. Thomas's, where they lay from 1725 to 1780. Among the other tombs in the crypt are those of William Hunt, Sir Astley Cooper and certain Governors, Surgeons and Physicians of bygone days. Of those who served the Chapel the greatest name is that of Frederick Denison Maurice, Chaplain 1836–46, portraits of whom will be found in the Lobby. A list of the services in the Chapel will also be found there, and the Chaplain is always glad to supply further information. Needless to say, the Chapel and its Services are always open to all members of the Hospital and Schools.

The Student Christian Movement at Guy's

By G. Wilson

THE Student Christian Movement has as its aim and basis, "the desire to understand the Christian Faith and to live the Christian life." At Guy's we try to carry this out by study and discussion of the various characters and writings of the Bible, of the lives of men devoted to the service of God, and of the claims of Christ as they bear on the problems of modern life. By these means we obtain new inspirations and attempt to find the solutions of our everyday difficulties.

The Freshers' Meeting of the Guy's Hospital branch of the Student Christian Movement will be held in the Medical School Committee Room, at the end of the Medical School office corridor, on Tuesday, October 8th, at 4.30 p.m., when, following an informal tea, an address will be given by Rev. Charles Warner, Warden of Student Movement House.

The Movement is entirely interdenominational in its membership and outlook. Freshers will be particularly welcome at this meeting, although any other member of the Hospital is cordially invited.

The weekly meetings of our branch of the Movement, throughout the term, take place every Friday from 4.45 to 5.45 p.m., in the Chaplain's Room, which can be reached through the door in the middle of the right-hand side of the quadrangle as one enters the Hospital. Inside the door, one turns sharply to the left, and the room is found at the end of a short passage. In addition, there are devotional meetings every Monday from 1.25 to 1.55 p.m., in the same place.

Any further information can be obtained by applying to G. Jones and G. Wilson (Medical School), J. C. McNeill and C. L. Hudson (Dental School), and F. H. Stevenson (Wards).

Guy's Hospital Musical and Operatic Society

By G. A. Winston

THE Guy's Hospital Musical and Operatic Society—the word operatic was added last year—is one of the non-affiliated Societies, and one of the youngest institutions at Guy's. It was founded in 1903 by the union of the Nurses Choral Society and the Students' Glee Club. Its entertainments, at first, consisted of a series of concerts, until 1919, when the Society boldly ventured to stage the Gilbert and Sullivan Opera "Trial by Jury," and there is no question of doubt that this entertainment established the Society as a "going concern," and its future was assured.

Each year the Society goes from one success to another, and although faced with many difficulties, particularly in regard to finding new principals to take the places of old favourites, it provides a most enjoyable entertainment. From "Trial by Jury," the Society has produced "Iolanthe," "Gondoliers," "The Mikado" and "Pirates of Penzance," while this year—in November—"H.M.S. Pinafore" will be given.

As the Musical Society is not affiliated to the Clubs' Union, an annual subscription of 2s. 6d. is made to male members, and 1s. to female members. All members of the Medical, Nursing, Massage, Administrative Staff and Students of the Hospital, are eligible for membership, and it speaks volumes for the efforts of the Society that the cast is selected entirely from the Hospital, and avoids the necessity of obtaining "outsiders" however difficult it may be to find really capable and competent principals.

The next production will be Gilbert and Sullivan's Comic Opera "H.M.S. Pinafore," which will take place at the Guildhall School of Music, on November 6th, 7th, 8th and 9th. Rehearsals have recommenced, but a very hearty invitation is extended to all who would like to take part. There is still time, and we especially appeal to "newcomers" to the Hospital, to come along to the Probationary Room of the Dental School every Monday and Wednesday evening at 8 p.m., where they will be cordially welcomed.

The Society will again have the services of so able a Conductor, Mr. Herbert Y. Templeman, and the genial Mr. Harry Leffler as Producer.

The Secretaries are Mr. G. G. Ellis and Mr. G. A. R. Winston, the Wills Librarian, both of whom will be very pleased to give further information to intending new members.

Guy's Hospital Clubs' Union

THE formation of the Clubs' Union, by the amalgamation of the various Constituent Institutions, took place in the summer of 1891. The objects of the amalgamation were to further the interests of the clubs and societies existing at the Hospital by their mutual support, and to simplify the collection of subscriptions. By the payment of an annual subscription—see *Clubs' Union Year Book*—to the Clubs' Union, any student of the Hospital can obtain the privilege of membership of the Constituent Institutions.

The Union comprises the following Constituent Institutions: Association Football Club, Athletic Club, Cricket Club, Dental Society, Gazette, Golf Society, Hockey Club, Lawn Tennis Club, Gymnasium, Physical Society, Rifle Association, Rowing Club, Rugby Football Club, Sailing Club, Students' Club and Swimming Club.

On joining the Union a student is entitled to take part in the activities of any of the above Constituent Institutions. The ground of the Clubs' Union is under the control of the Council, is situated close to Honor Oak Park Station on the Southern Railway, Brighton Section, and to Crofton Park Station, on the Southern Railway, South-Eastern Section. It is 9 acres in extent and is the headquarters of the Guy's Football, Cricket, Athletic and Lawn Tennis Clubs. A Fives Court, under the management of the Students' Club, is situated behind the Nurses' Home near the Swimming Bath, and arrangements are made for classes in Boxing, Fencing and Gymnastics in the Pavy Gymnasium. The Rowing Club is affiliated to the London Rowing Club at Putney, and members are entitled to all the advantages of that Club. Meetings of the Debating, Dental and Physical Societies are held from time to time in the College.

The membership subscription of the Union is 5 guineas per annum.

Extensive alterations have been carried out in the Students' Club to provide greater accommodation and comfort for the members, and are dealt with in the next paragraph on the Students' Club.

At Honor Oak Park a new stand has been erected to seat 800 people, so that now with the two existing small stands there is seating accommodation for 1,000 people. It is hoped that improvements to the Pavilion will be commenced shortly.

As any student can see, these alterations in themselves necessitate an increase in the membership subscription. The Utopian ideal of a new Students' Club may even be yet realised in the future, thus adding another burden to the finances of the Union.

Membership cards are issued entitling the holders to the privileges of membership of each of the Constituent Institutions.

New members should consult the Notice Boards in the Colonnade for information as to the activities of the various clubs.

An excellent programme of home matches has been arranged by the Rugby Football Club—*vide* Fixture Cards—and it should be noted that free admission to the ground during matches at Honor Oak Park is granted only to members of the Union on production of their membership cards.

STUDENTS' CLUB

The premises of the Club include the Smoking and Reading Rooms and the Dining Hall in the College.

A good supply of papers and periodicals is now maintained, and it is hoped that all members of the Club will assist the Committee by themselves seeing that the periodicals, etc., are kept in good order. The taking of periodicals out of these cases or the removal of papers from the Reading Room throws a lot of extra work on to the Librarian, and members ought not to expect the Committee to keep up a constant supply of papers if these are continually removed as soon as they are placed in the Reading Room.

The Library in the Reading Room has also been thoroughly rearranged A new catalogue has been made, and can be inspected at any time.

Notices are posted in the Reading Room stating the regulations of the Library, and students should avail themselves of this opportunity of a good supply of general literature, which for once has no connection whatever with medicine.

Through the Library books may also be obtained from Mudie's Library.

The attention of all members is drawn to Rule 20 of the Clubs' Union :—

"Every member whose subscription is more than one month in arrear shall be suspended from the privileges of membership, and his name shall be posted in the Students' Club. After two months' default, if desirous of resigning his membership, he shall be required to submit his resignation in writing to the Secretary, and shall not be readmitted without the consent of the Council, who shall, if they think fit, impose a fine of 5*s*. upon his readmission."

A list is posted from time to time of members who have failed to comply with the rules in the Students' Club, and the Secretaries of Constituent Institutions are notified that the members named are not entitled to the privileges of the Union until their subscriptions have been paid.

Rugby Football Club

By A. R. Clarke

THIS, our 86th Season, starts on September 21st with the annual fixture against Catford Bridge. Last year our prospects for a successful season were bright until we learnt that T. O. Garland, who had been elected Captain, would be unable to play at all. Other disasters shortly followed in the form of injuries to Malone, Eustace and Windsor Lewis, the latter in one of the Welsh Trials. We were thus deprived of the services of several of our best for a large number of matches.

The team was young and a long run of consecutive losses might well have disheartened them; it did not. They gained valuable experience, turned to good account in the only matches in which we were fully represented. Brilliant victories over Birkenhead Park, Rosslyn Park, Gloucester and a drawn game with Cambridge, led up to their final success and the return of the Hospitals' Cup.

Now, it still seems certain, that Garland will not play again. F. H. B. Spence has qualified and is returning to South Africa, and C. D. Malone, also qualified, is unlikely to stay on. We shall miss these, but we still have most of last year's team and plenty of promising reserves. There will be new blood, the unknown factor that we can never estimate. We welcome all newcomers to Guy's who may in any way be interested in Rugger. Our fixture list maintains its high standard. We play Coventry and Portsmouth Services early on, and on October 26th we meet the "Quins" at Twickenham, the first time we have ever played on that ground. By this time, the team should be well together under the leadership of T. G. Robinson. Windsor Lewis is Vice-Captain, and although he has just recovered from a mild attack of diphtheria, he hopes to play quite soon. Nobody who watched the Cup Final will fail to appreciate the value of his partnership with Eustace. The pack is young and fast, and should be very effective under the leadership of last year's Captain, Popplewell. Popplewell is now the veteran of the side, but playing better than ever. At the end of last year he went to Paris for a representative London side.

There are just grounds for prophesying at least a successful season. The keenness which has always been a great part of Guy's Football is most certainly in evidence this year. We feel certain

that neither the team nor its supporters will be disappointed.

Last year the "A" XV reached the Final of the Junior Hospitals Cup, and we hope that this year they will regain the trophy. They should be able to maintain their high standard of recent years.

J. C. Fry is now Secretary, H. R. Stubbs, Secretary of the extra "A" XV, and L. K. Robson is running the Nomads. Anyone wanting to play should not hesitate to ask one of the Secretaries or put his name on the list in the Colonnade.

Association Football Club

By J. W. Small

IT is now forty-seven years since the Association Football Club was formed, and we find the popularity of the game well maintained in the Hospital. Last season we started filled with the hope of producing a side that would win both the Hospitals' Cup and the University Cup; the eleven in point of fact, seemed equal to this, for under the captaincy of A. M. Cantor, they had a most successful season up to Christmas. Injuries and illness, however, helped to weaken the team that played in the cup-ties during January and February; we lost to University College, the ultimate winners, in the semi-final of the Hospitals' Cup, and failed also in the University Cup. We were strengthened during the season by three very excellent players new to the Hospital and the team in J. Sharp, C. E. R. Wood and H. Edwards.

The Second Eleven, though faring no better than the First in Cup games, enjoyed an equally enjoyable season.

For 1929–30, D. B. Smallshaw will be Captain of the First Eleven, and under his enthusiastic leadership, they should become a first-class side; he will be fortunate in finding all, or nearly all, of last year's members still able to play. If there are new men come to the Hospital who should prove themselves of first-eleven standin-, then so much the better, there is always room for such. E. J. Stubbs will act as Hon. Secretary, and we trust that everyone, without exception, wlll exert himself to make his work, at no time light, no heavier than it need be.

The fixture list includes games at home or away with most of our old rivals, notably the H.A.C., Old Westminsters, Old Malvernians, Old Carthusians and Old Wellingburians. Some of our most enjoyable games are visits to the Colleges at Oxford and Cambridge. The season starts on October 5th, with a match against the Old Citizens.

Last year a large part of the strength of the United Hospitals' side was drawn from Guy's; they played several games with very fair success against strong amateur elevens. No doubt, our more outstanding players will again be called upon this year.

The list posted on the notice board in the Colonnade for the purpose of attracting the names of new members, has already met with very fair success, but will all those wishing to play "Soccer," who have not yet done so, add their names to the list and keep an eye on the board for notices of trials. For the benefit of new men it should be mentioned that the home ground is at Honor Oak Park, 15 minutes run from London Bridge Station; cheap return tickets can be obtained from the cashier in the college dining-room. Club shirts are supplied by Messrs. Proberts, of 35, Borough High Street.

Hockey Club

By T. F. Todd

THE Annual General Meeting of the Hockey Club was held last June and the following officers were then elected for the coming season:—

Captain—H. O. Lyne; *Vice-Captain*—G. M. Carrell; *Hon. Secretary and Treasurer*—T. F. Todd.

Committee—J. B. Schofield; R. A. Sykes; F. R. Hayward; C. J. Hartley; T. H. Chignell; and W. W. Jones (*Assistant Hon. Secretary* for 2nd XI).

Last season was an unfortunate one for the Club in many respects. We were especially unfortunate as regards our home ground. After many seasons at Elmer's End, we were at last forced to leave owing to building activities. A temporary ground was found at Edgware, but proved very unsatisfactory, both as regards playing pitch, and also the accommodation available for ourselves and our visitors.

As an inevitable result there was much less enthusiasm shown than usual, and we rarely took the field at full strength. This, in its turn, doubtless accounted for our poor showing in the Inter-Hospitals' Cups-tie and for several bad reverses otherwise received.

This season, however, our prospects are much brighter. We have secured satisfactory quarters at Ealing where we shall be playing on the ground of the Ealing Cricket Club. Here we have an old hockey ground, plus good accommodation, and we will be able to return equally the hospitality we are accustomed to receive. The ground is only four minutes' walk from Ealing Broadway Station, District Railway, and can be reached from the Hospital in 50 minutes.

A. R. CLARKE
Hon. Sec. 1st Rugby XV.

J. C. FRY
Hon. Sec. "A" Rugby XV.

H. R. STUBBS
Hon. Sec. Extra "A" Rugby XV.

L. K. ROBSON
Hon. Sec. Nomads XV.

E. J. STUBBS
Hon. Sec. 1st Soccer XI.

T. F. TODD
Hon. Sec. Hockey.

TEAM SECRETARIES, 1929

Under these improved conditions greater keenness all round is hoped for. There are several vacancies to be filled in both elevens.

New members in particular, are invited to join the Club. They can be assured of a hearty welcome and a regular game, once or twice a week. It is our ambition this season, to regain, if possible, both Senior and Junior Inter-Hospital Cups, and we can only do this if members are keen enough to keep well trained and turn out regularly during the season. There is no place for the occasional player.

A list will be found on the notice board in the colonnade, where, it is hoped, all new men who play hockey will place their names.

Entry of Students, October, 1929

Medical

Name	*Year*	*School*
Alakija, O. B.	1st Year	Seaford College.
Atkins, H. J. B.	4th Year	Trinity College, Oxford.
Blackmore, R. J.	1st Year	City of London School.
Blazeby, R. H.	1st Year	Haileybury College.
Bolton, R. H.	4th Year	Trinity College, Oxford.
Bowen-Davies, A.	4th Year	Pembroke College, Cambridge.
Campbell, L. I. S.	4th Year	Clare College, Cambridge.
Carleton-Eckhert, L.	3rd Year	University of Toronto.
Clarke, C. A.	4th Year	Caius College, Cambridge.
Cooper, H. G. N.	4th Year	Oriel College, Oxford.
Cope, R. W.	1st Year	Aldenham School.
Curtis, F. J.	4th Year	Caius College, Cambridge.
Davies, D. A.	1st Year	Aske's School, Hampstead.
Denny, G. C.	1st Year	Kelly College, Tavistock.
Doupe, J. W.	1st Year	Crypt School, Gloucester.
Drummond, R. J.	4th Year	St. Andrew's School, Bloemfontein.
Edwards, R.	1st Year	Repton School.
Finer, I.	Pre-medical	Hackney Downs Secondary School.
Forbes, J. R.	1st Year	Alleyn's School, Dulwich.
Freebody, D. F.	1st Year	City of London School.
Frost, L. D. B.	1st Year	Philander Smith College, India.
Geisen, J. E.	1st Year	Collegiate School, Wanganui, New Zealand.
Gill, W. G.	4th Year	Caius College, Cambridge.
Gill-Carey, E.	1st Year	Collegiate School, Wanganui, New Zealand.
Hale-Monro, T. A.	1st Year	Nautical College, Pangbourne.
Hammerling, J.	1st Year	Atlantic City High School, U.S.A.
Hammond, J. A. J.	1st Year	Haileybury College.
Hammond, R. A. E.	4th Year	Caius College, Cambridge.
Hanbury, P. B.	1st Year	Epsom College.
Hardenberg, H. E. W.	1st Year	Epsom College.
Kail, D.	1st Year	North Carolina University, U.S.A.
Kamm, L. U.	1st Year	St. Aloysius' College, Highgate.
Keates, G. H. W.	1st Year	*Portsmouth Grammar School.*
Keiner, S. S.	3rd Year	New York University.
Leggett, H. A.	1st Year	Perse School.
Lillicrap, C. A.	1st Year	St. Dunstan's College.
McDonnell, C. A.	3rd Year	University College, Dublin.
Machado, B.	Pre-medical	Wolmer's School, Jamaica.
Mann, W. N.	1st Year	Alleyn's School.
Mares, H. R.	1st Year	New York University.
Mayer, J. H.	1st Year	Brighton College.
Miller, D. A.	4th Year	Downing College, Cambridge.
Mitchell, W. J.	1st Year	Aske's School, Hatcham.
Morton-Palmer, B. C.	3rd Year	Jesus College, Cambridge.
Murdoch, J. B. C.	2nd Year	Queen's College, Cambridge.
Oliver, J. R.	2nd Year	Leys School, Cambridge.
Osborne, R. L.	1st Year	New York University.
Owles, W. H.	4th Year	Exeter College, Oxford.
Payne, R. B.	4th Year	St. John's College, Cambridge.
Pickering, R. W.	4th Year	University of Cape Town.
Piper, D. S.	2nd Year	St. Paul's School.
Potter, F. O.	1st Year	Royal Grammar School, Colchester.
Price, J. E.	1st Year	Christ College, Brecon.
Rees, J. W.	2nd Year	Spring Grove Secondary School, Isleworth.
Rushbrooke, S. A. W.	1st Year	County Secondary School, Crewe.
Salvi, A. E. K.	1st Year	Westminster School.

Name	Year	School
Silverstone, S. M.	4th Year	Fitzwilliam House, Cambridge.
Spalding, J. E.	1st Year	St. Lawrence College, Ramsgate.
Steinbach, G. M.	1st Year	College of the City of New York.
Taylor, F.	1st Year	Christ's Hospital.
Van der Post, C.	1st Year	Gray University College, Bloemfontein.
Wayte, A. B.	1st Year	Sherborne School.
Wolfson, L. J.	4th Year	Lewis' School, Pengam.

Dental

Annett, H. R. P.	1st Year	Dean Close School, Cheltenham.
Bailey, L. J.	Pre-medical	County High School, Ilford.
Barber, R. O.	1st Year	Chatham House School, Ramsgate.
Beales, C. M.	Pre-medical	City of London School.
Chartier, R.	Pre-medical	Liceo de Costa Rica.
Clark, W. H.	1st Year	Kelly College, Tavistock.
Curtois, G. M.	Pre-medical	St. Peter's School, York.
Davis, H. C.	1st Year	Bishop's Stortford College.
Dimock, W. G. C.	1st Year	Perse School, Cambridge.
Edwards, A. G.	2nd Year	Royal Grammar School, Colchester.
Entwhistle, J.	1st Year	Blackburn Grammar School.
Fernando, W. E. M.	Pre-medical	Brighton College.
Fleetwood, E. D.	Pre-medical	Aldenham School.
Fletcher, K. E. J.	Pre-medical	Caterham School.
French, H. C.	Pre-medical	Hilton College, South Africa.
Gaterell, J. J.	Pre-medical	City of London School.
Gillham, N. E.	1st Year	Tottenham County School.
Greensled, D. A.	Pre-medical	Aske's School, Hampstead.
Groom, W. A.	1st Year	Wilson's Grammar School.
Hagger, C. I.	1st Year	Alleyn's School.
Helmer, T.	2nd Year	Douglas High School, Isle of Man.
Jackson, W. S.	Pre-medical	St. Andrew's College, Dublin.
James, C. H.	1st Year	Cranleigh School.
Jenet, E. C.	1st Year	Rydal School.
Jenkins, O. C.	Pre-medical	Christ College, Brecon.
Kendrick, W. C.	Pre-medical	Simon Langton School.
King, H. G.	1st Year	St. George's School, Harpenden.
Knight, J. B.	Pre-medical	Bishop's Stortford College
Littleton, W. J.	Pre-medical	Hayle Grammar School.
Malt, D. F.	1st Year	Perse School.
Martin, R. S.	1st Year	Kings Mead, Seaford.
Morris, K.	1st Year	Lancing College.
Musgrove, E. H.	Pre-medical	St. Lawrence College, Ramsgate.
Parks, E. J.	Pre-medical	St. Olave's Grammar School.
Pitman, J. H.	1st Year	Rydal School.
Prescott, R. W.	Pre-medical	Kingstown Grammar School, Dublin.
Rattee, V.	Pre-medical	Ascham College, Clacton.
Rees, H. P.	1st Year	Whitland County School.
Robertson-Ritchie, D. H.	1st Year	Wyggeston Grammar School.
Rogers, F. A.	Pre-medical	Dulwich College.
Scott, K. L.	Pre-medical	Christ's College, Blackheath.
Stevenson, D. P.	1st Year	Epsom College.
Sumerling, R. B.	2nd Year	King William's College, Isle of Man.
Thompson, J. L.	Pre-medical	Bishop's Stortford College.
Tinkler, S. N.	1st Year	Caterham School.
Waite, W. E.	2nd Year	Wycliffe College, Stonehouse.
Wash, A. G. W.	2nd Year	Sudbury Grammar School, Suffolk.
Whitling, I. E. W.	1st Year	St. Lawrence College, Ramsgate.
Williams, R. A. C. E.	1st Year	The Polytechnic, Regent Street.
Williams, T. H.	1st Year	Fishguard Secondary School.
Wilson, D. M.	Pre-medical	High School, New Plymouth, New Zealand.

Births

ANNESLEY—On August 15th, 1929, at the Country Hospital, Shanghai, North China, to Joan, wife of Major F. D. Annesley, R.A.M.C.—a son.

DAVIES—On August 21st, 1929, at Hipperholme, Halifax, Yorks, to Gwynedd Mary Grace, wife of Llewellyn Davies, M.R.C.S., L.R.C.P.—a son.

LANSDOWN—On September 30th, 1929, at 106, Woodcote Grove Road, Coulsdon, to Ermyn, wife of R. B. P. Lansdown, M.B., B.Ch.,—a daughter.

Marriage

DOWELL—DOMMEN.—On 17th September, 1929, at Derby, William Henry Dowell, M.R.C.S., L.R.C.P., eldest son of Mr. and Mrs. Henry Dowell, of Paddington, Leicestershire, to Henriette, daughter of Mr. and Mrs. Edward Dommen, of Hutton, Derbyshire.

EDS. { E. T. C. / J. B. B.

GUY'S HOSPITAL GAZETTE

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PASSIM

ARROGANCE and ignorance have come to be classed among the cardinal sins of the age. Inseparably associated in the past and often condoned, they cannot be excused at present. Universally they arouse intense hostility of the bitterest kind. The fact that the medical profession should be open to censure in this connection may come to many of its members as an unwelcome surprise, but an early review of the situation, with practical suggestions as to the remedy, will be regarded with a sincere relief. This, in effect, is what Sir Farquhar Buzzard has courageously undertaken, and, in our opinion, brilliantly accomplished in his inaugural address to the students of Birmingham University, included in a recent number of the *Lancet*.

There is no doubt that doctors as a whole are not so popular with a certain section of the public, as we feel they should be. Sir Farquhar Buzzard admits much truth in the allegations of arrogance and ignorance, and calls on the medical profession to look to themselves for the cure of this unfortunate state of affairs. It seems to us that our unpopularity is most marked with that class of patient, whose members possess a smattering of scientific knowledge, which they believe entitles them to assume a very fair grasp of medical matters, possibly even placing them in a position to criticise their medical advisers in a purely technical manner. The very poor are without scientific or medical knowledge, and their faith in doctors is most enduring. The man with a good understanding of medical matters is always a man of wide reading and excellent intellect; he comprehends the limitation of medicine and does not expect too much, at the same time he fully appreciates that which organised medicine is able to offer. In the remaining class, the largest in most practices of those with a little scientific knowledge, we discover that every man is in his own eyes an amateur doctor of some account; he has a remedy for most minor ailments, and explains them and all diseases along rudimentary lines, tempered with a little superstitious belief: he entertains an ideal of medical practice not yet attained, one unlikely in fact even to be reached, in which there is a ready cure for each and every illness, the doctor being incompetent if he cannot provide it. A doctor is attributed with this supreme knowledge of his subject, until experience or admission of ignorance on his part dissipates the illusion and he is left in his true light of a very imperfect practitioner of healing, a light which is all the more dim in contrast to his former brilliance. Then, it having been decided that a doctor is a mere impostor, an added virtue is accorded the unqualified who profess to cure.

The vast majority of men will stand anything other than humbug; a frank admission of ignorance is appreciated more than confident bluff, upon which doubt is cast later. Arrogance in this respect is largely born of ignorance; while ignorance on the part of a doctor was relative, and on that of the patient complete, something might be said for this attitude, but as general education advances, so must the doctor learn more and more to treat his patient as a man capable of appreciating a sensible and complete account of his own case to which he is, in fact, entitled. Arrogance is, indeed, developed early in our career, for we are all trained in hospitals, whose patients are, in the main, still completely ignorant so far as scientific knowledge is concerned; as far as they are concerned anything short of complete and absolute certainty on our part would be incomprehensible.

Complete refutation of the double charge will undoubtedly take a long time, but it rests with the medical profession to secure by its own endeavours, and in the meanwhile to preserve a calm and tolerant attitude that cannot fail to regain for its members that measure of the patients' respect and confidence so necessary to success in treatment.

We note that on Friday, 8th November, at 4.30 p.m., Dr. A. F. Hurst will deliver the Schorstein Memorial Lecture in the Bearsted Clinical Theatre, London Hospital Medical College; taking for his subject "Precursors of Carcinoma of the Stomach." Probably no one is better qualified to discuss the difficult questions involved, and we feel confident that many Guy's men will be among those who accept the invitation to attend extended to all members of the medical profession.

Dancing men should have no cause to complain of boredom during the next few weeks, for there is a whole list of fixtures to claim their attention. The popular series of Mediguildances continue at the B.M.A. House in Tavistock Square on the evenings of October 31st, November 14th, and December 12th, full details being given elsewhere in this issue, while Mrs. Eason and Mrs. Cook have chosen November 20th and 21st for two dances in the Court Room, at which it is hoped to repeat the success that attended the two similar affairs held there nearly two years ago when the hospital funds benefited by over one hundred pounds. In our own case, we have decided that charity is to begin in the Court Room and would remind those of similar intention that the tickets, price 7s. 6d. each, necessarily limited in number to prevent overcrowding, are to be obtained from Mrs. Eason at the Superintendent's House, from Mrs. Frank Cook and Mrs. George Doherty at 14 and 6, St. Thomas's Street, respectively, from the President of the Residents, and also from Matron's Office.

The leading lights of the Musical Society certainly possess versatility among their unhired properties, and we hear that while the Major General's daughters have taken most kindly to their new guardian, one Sir Joseph Porter, K.C.B., last year's pirates are equally happy and quite tolerant of the naval discipline aboard *H.M.S. Pinafore*. Since tickets for the last two performances of next month's production are almost sold out, if many of the sisters and the cousins and the aunts, who would most enjoy this nautical night out, are not to be disappointed, something should be done quickly in the way of getting in touch with Mr. G. G. Ellis, the Hon.-Secretary, or with Mr. Winston, the Wills Librarian, who are jointly responsible for the box office arrangements.

Splenic Anæmia

A Lecture by Dr. L. J. Witts

"A young man of about twenty years of age, having from an original strength and firmness of constitution, degenerated into the state of a valetudinarian, for two years past, attributed this change in his health to hunting and dancing, and to other things of that kind, which he had indulged himself greatly in the practice of, and to the effect of the business by which he earned his livelihood; for he was by trade a flax-dresser. He was become pallid in his countenance, and complained, according to the custom of hypochondriac persons, of slight disorders of the belly, and thorax, which recurred now and then. At length, in the summer of the year 1688, *a large and hard tumour discovered itself in the left hypochondrium, with a sense of weight and a difficulty of respiration in walking. To these symptoms was, suddenly, added a large vomiting of blood, with a great loss of strength and increase of tumour, and a fever. By the assistance of remedies he was freed, in the first days, from the vomiting, and after that from the fever; and having used chalybeates for the three succeeding months, the hardness of the tumour was also removed; yet it continued equally large, with a pallid, and, as it were, almost citron colour of the countenance.*

But in the month of January, the vomiting returning two or three times, he was seized with a violent fever, attended with a hard and quick, though at the same time small pulse, a pain, weight, and tension, of both the hypochondria, and an inextinguishable thirst. However, on the ninth or eleventh day of the fever, he was taken off by a very placid kind of death."—Morgagni, J. B., De Sedibus Malorum, Epist. 36.

Before discussing splenic anæmia, I wish to speak about thrombosis of the portal vein and other disturbances of the portal circulation. I have already described the effects of chronic portal obstruction, and it will not be difficult for you to deduce the symptoms of sudden occlusion of this vein. The earliest symptoms are acute pain in the abdomen, hæmatemesis and bloody diarrhœa. Ascites develops in a day or two and splenic enlargement follows. Later, the superficial abdominal veins become visibly enlarged as the collateral circulation develops. In only about half the cases, however, is the onset acute and dramatic; ascites or splenomegaly may be the first sign. The symptoms depend, to some extent, on the portion of the portal vein obstructed.

Obstruction of the trunk produces ascites; of the splenic vein, splenomegaly and hæmatemesis; of the mesenteric vein, intestinal obstruction with colicky abdominal pain, which is of great severity but ill-localised, vomiting which may be bloody, obstinate bloody diarrhœa, rapid collapse with cold sweats and subnormal temperature.

CAUSE OF THROMBOSIS.	NO. OF CASES.
(*a*) Without splenomegaly—	
Suppurative pylephlebitis	52
Agonal thrombosis	6
Carcinomatous invasion of portal vein	11
Following operations on intestinal tract	5
Pressure on portal vein by pancreatic cyst	1
	75
(*b*) With splenomegaly—	
Fibrosis of liver	12
Idiopathic thrombosis	6
Chiari's disease	3
Chronic cholecystitis	6
Chronic gastric ulcer	1
Polycythæmia	2
	30
Total	105

I should now like to discuss Evan's series of 105 cases of portal thrombosis autopsied at the London Hospital. Almost exactly half were examples of suppurative pylephlebitis. In this disease, which usually results from the spread of infection from an inflamed abdominal viscus, symptoms of portal obstruction are usually in abeyance and the patient presents the picture of pyæmia—rigors, intermittent fever, diarrhœa, rapid pulse, furred tongue and leucocytosis. The liver is enlarged and tender, and there is usually some degree of jaundice. The condition is almost invariably fatal. Of the 53 non-suppurative cases, 12 were due to invasion or pressure by tumours, 11 were post-operative or agonal, and seven occurred with cholecystitis or gastric ulcer. There is no instance of syphilis in this list. The same is true of Langdon Brown's series of cases of portal thrombosis collected at St. Bartholomew's Hospital, and though portal thrombosis occasionally results from pressure or invasion by a gumma this is really a very infrequent cause.

Chief interest attaches to the cases in the second part of the table in which splenomegaly was the presenting symptom. Of these 30 cases, 18 were diagnosed clinically as splenic anæmia. This is an error easily made when a patient presents himself with a history of hæmatemesis and an enlarged spleen. English clinicians have been rather slow to recognise thrombosis of the splenic vein as one of the causes of the symptom-complex of splenic anæmia, although I think that its importance as a cause of splenic anæmia has been exaggerated abroad. Uncomplicated portal thrombosis produces no change in the liver except anæmia or slight atrophy. When thrombosis is associated with cirrhosis of the liver, I think it must be regarded as secondary to the cirrhosis and the stagnation in the portal tract. Post-mortem examinations at the London Hospital suggest that about 10 per cent. of cases of "splenic anæmia" are due to idiopathic thrombosis of the splenic vein.

Primary thrombosis of the portal or splenic vein must be regarded as a disease *sui generis*. Occasional cases may result from trauma or metastatic infection, but in the great majority thrombosis occurs spontaneously. Thrombosis not infrequently occurs in other veins of these patients, such as the jugular, the brachial, and the femoral, and surgeons have come to regard them as a *noli me tangere* on account of the frequency with which mesenteric thrombosis and infarction of the intestine occur after operation. Splenomegaly and hæmatemesis are the cardinal symptoms and the bleeding recurs over a period of years, until the patient succumbs to a final severe hæmorrhage. The recurrences seem to be due to successive canalisation and thrombosis of the portal vein, which may ultimately be transformed into cavernous tissue. Operation is not only dangerous, but it is also ineffectual in checking the bleeding. Usually the bleeding recurs soon after operation, but it may be delayed as in a case described by Stillman:—

"Splenectomy was performed seven years after recognition of splenomegaly. After operation, hæmorrhages ceased for six years and then recurred so that a second operation was performed. At the second operation the liver was normal and the splenic vein was thrombosed and canalised."

Rosenthal has recently suggested an explanation and a method of diagnosing these cases of primary portal thrombosis. As you are well aware, the blood platelets are an important factor in the promotion of blood-clotting. In the ordinary case of splenic anæmia, blood platelets are diminished, and that is one of the reasons why the patients bleed. But in the thrombotic form of splenic anæmia platelets are normal or increased, and there occur at intervals platelet crises in which the platelets rise to a million or more. It is at these times that thrombosis occurs. One of the surest ways of precipitating a platelet crisis is by operating on these patients, and splenectomy is also contra-indicated, because the

spleen is the most important organ for the destruction of blood platelets. The disease then is a hyper-thrombocythæmia, and it seems wisest to treat these patients on the lines which have been successful in erythræmia, namely, by X-raying the spleen and the long bones.

Much rarer than portal thrombosis is occlusion of the hepatic veins or Chiari's disease. Byrom (1929) was able to collect only 45 cases. In most of them the occlusion was due to a primary thrombosis, and the underlying pathological state seems to be the same as in portal thrombosis. The disease occurs at all ages, most often in early adult life. The symptoms are those of portal obstruction plus hepatic insufficiency. I do not think the correct diagnosis has ever been made during life. In acute cases, ascites and coma rapidly develop, the skin is cyanosed and death occurs in a few days. In others, the course is more chronic. The patient complains of epigastric pain, the liver is tender and the spleen is palpable. Vomiting is frequent, hæmatemesis is rare. Jaundice is unusual. Ascites developes and persists in spite of repeated tapping; paracentesis, indeed, often seems to hasten the end. The veins in the subcutaneous tissue of the belly and chest are dilated. Sooner or later the collateral circulation proves inadequate, secondary portal thrombosis occurs, and the patient succumbs with the usual manifestations of portal obstruction. In acute cases, the liver is intensely congested, with areas of degeneration and necrosis in the centre of the lobules. In the more chronic cases these areas are replaced by fibrous tissue and a typical hobnail liver is produced. Only one instance of recovery is known. This was a patient who died at the London Hospital from carcinoma of the colon; he had a perfect collateral portal circulation which had been in existence for 40 years, although the vena cava and the hepatic veins were completely occluded.

In extremely rare instances the hepatic veins are occluded during fœtal life, from aplasia, thrombosis or inflammation. The umbilical vein then persists and provides a collateral channel for portal blood. As thick as a finger, it is usually varicose and sacculated, and it anastomoses at the umbilicus with the dilated and tortuous epigastric veins. The liver is cirrhotic, and the spleen enlarged. This syndrome of cirrhosis, splenomegaly and persistence of the umbilical vein is known as Baumgarten's disease. Often the patients are regarded as perfectly normal children. No symptoms arise until later life and they may live to a fair age. Eventually the collateral circulation breaks down and death occurs with ascites or other symptom of portal congestion.

Having cleared the ground in this way, we can now pass to the consideration of splenic anæmia proper. Whenever the spleen is enlarged there is usually anæmia, leucopenia and a tendency to hæmorrhages. We have already discussed a number of conditions in which this clinical picture may appear. They are toxic, alcoholic and syphilitic cirrhosis of the liver, and obstruction to the portal blood flow as it occurs in portal thrombosis, Chiari's disease and Baumgarten's disease. Now, although these conditions often offer great difficulty in diagnosis, it is not right to call them splenic anæmia, and I should advise you to use the term splenic anæmia strictly as it was defined by Osler:—

"A chronic affection, probably an intoxication of unknown origin, characterised by progressive enlargement of the spleen, which cannot be correlated with any known cause as malaria, leukæmia, syphilis, cirrhosis of the liver, etc. (primary splenomegaly); a marked tendency to hæmorrhage; and, in many cases, a terminal stage with cirrhosis of the liver, jaundice and ascites (Banti's disease)."

Banti worked in Italy, and there are certain differences in his cases from what is usually found in splenic anæmia; the fibrosis began in the Malpigian corpuscles, whereas the pulp is chiefly affected in splenic anæmia as it occurs elsewhere. I do not think this is sufficient reason for differentiating Banti's disease from splenic anæmia, as the course is essentially the same. Banti described three stages in the disease:—

1. A stage of anæmia and splenomegaly which commenced insidiously and lasted on an average three to five years.

2. A second period lasting about eighteen months in which the liver was enlarged and the anæmia became more severe.

3. A terminal stage with cirrhosis of the liver and ascites.

We should probably be much better off without such eponymic titles as Banti (or Hanot). But it has become customary to speak of the disease as splenic anæmia in the first two stages and Banti's disease in the terminal cirrhotic stage, and as long as it is realised that they are one and the same disease no harm is done. MacCarty (1923, quoted by Chancy) at the Mayo Clinic, examined sections of liver taken at operation from over 60 cases of splenic anæmia, and in none of them, no matter how short the duration of the disease, was the liver entirely normal. There was always some fibrosis.

Splenic anæmia occurs most commonly in young adults, and it is equally frequent in men and women. The average age of Chancy's 69 cases was 33 years, the youngest being two and a-half

and the oldest 69. The age onset is probably five or ten years younger than this average, as the disease begins insidiously and the patients have usually been ailing a long time before they come under treatment. Pallor is a marked symptom. The skin often has a sallow tinge and there may be actual bronzing, but there is no jaundice. The spleen is greatly enlarged and usually extends across to the middle line and down to the level of the umbilicus. The patients complain of dragging pain in the left hypochondrium and there may be more severe attacks of pain from perisplenitis. Hæmatemesis, often of alarming severity, occurs in more than half the patients. This is partly due to enlargement of the vasa brevia passing from the spleen to the stomach, but there is a hæmorrhagic tendency in addition, and the platelets are usually diminished. The liver may be palpable. The superficial veins of the chest and abdomen are not enlarged, a useful point in differentiating the condition from alcoholic cirrhosis. The anæmia is of the secondary type, the colour index averaging about 0.7; the white cells are diminished in number. The fragility of the red cells is normal so that the disease should not be confused with hæmolytic jaundice.

Post-mortem, the spleen retains the general shape of the normal spleen, but is greatly enlarged. It is very firm. On section fibrosis is evident, and the Malpigian bodies are inconspicuous. The liver in the early stages is macroscopically normal, in the late stages it shows the typical picture of portal cirrhosis.

I need not go into the differential diagnosis as I have already discussed the conditions which most closely mimic splenic anæmia, and I will give a classification of splenomegaly later. The only treatment is splenectomy. Without this, the disease progresses inevitably to cirrhosis and death. The operation has a high mortality owing to the frequent presence of adhesions and the poor condition of the patients who are often debilitated by hæmorrhage and anæmia. Up to 1927, 123 cases had been operated on at the Mayo Clinic with an operative mortality of just over 12 per cent. One hundred and three of the surviving patients were traced. Sixty were still living and only five of them were in poor condition. Nine patients have lived longer than 11 years, one of them 18 years after splenectomy (Giffin). When cirrhosis has developed the outlook is very gloomy, but I have seen patients relieved of ascites by medical treatment, brought into better condition by transfusions and then safely carried through the operation of splenectomy.

The ætiology of splenic anæmia is not known. Both from the clinical course and also from the results of operation it would seem as though some agency were present in the spleen which produces anæmia and cirrhosis. Various workers have claimed to demonstrate fungi in the spleen and have obtained them on culture. It is generally believed, however, that fungus-like structure seen in the spleen are really elastic fibrils impregnated with iron. And fungi can sometimes be grown, not only from the spleen in splenic anæmia, but also in the spleen enlarged from other causes and even in the normal spleen so that they cannot be regarded as pathogenic.

A striking parallel with splenic anæmia is provided by Egyptian splenomegaly. This is probably a visceral form of schistosomiasis. The eggs of S. mansoni can be found in the spleen and the liver. It occurs at all ages, but is most common between 15 and 30. The spleen is greatly enlarged, hæmatemesis occurs, and there is a terminal stage with cirrhosis, ascites and emaciation. In the early stages fever and leucocytosis are present, but later there is a leucopenia of about 3,000 and a mononuclear increase of 10 to 17 per cent. There is a progressive anæmia of the same type as splenic anæmia. Treatment is by splenectomy which appears to arrest the progress of the disease, although the operation has a mortality of about 15 per cent.

Splenic anæmia must not be confused with chronic septic splenitis, which is most often due to streptococcal infection. The spleen is usually enlarged in subacute bacterial endocarditis, and this may be the presenting symptom so that confusion with splenic anæmia may easily arise. A similar splenomegaly sometimes occurs with a focus of infection elsewhere, especially about the teeth or in the bowel. There is considerable fever, and hæmorrhages from the nose or in the skin. Anæmia may be severe, but leucocytosis is usually present and differentiates the disease from splenic anæmia. Splenectomy is contra-indicated. The results of the operation have been uniformly bad. Treatment is by removal of the septic focus, if this is possible, when recovery may occur. A typical case is described by Knyvett Gordon :—

" A man was sent in desperately ill, with pallor, hæmorrhages from the bowel, and an enlarged spleen. He was thought to be suffering from leukæmia, but examination of the blood showed a moderate leucocytosis only, and the cells were almost all polynuclears. A diagnosis of coccal infection, not associated with leukæmia, was made, but the patient died before the source of this could be traced. At post-mortem examination there was found in the ileum, 6 inches from the ileo-cæcal valve, a large hard chronic ulcer with a chain of glands running through the mesentery to

the enlarged spleen. Streptococci of a virulent kind were found in the ulcer and glands."

Before concluding this lecture on splenic anæmia. I should like to refer to two other groups of splenomegaly which may cause confusion in diagnosis. They are very rare. The first group has been named the reticulo-endothelioses, being due to disorder of the reticulo-endothelial cells. In Gaucher's disease the spleen, liver, bone marrow and lymph nodes contain peculiar large pale cells. They are derived from the reticulo-endothelial cells, and they have stored a substance of the nature of kerasin. Gaucher's disease is a constitutional disorder and it may be familial. It runs a very chronic course and life may not be greatly curtailed by it. The skin especially on the face and the upper part of the body, is often of a yellow ochre or bronze colour and there may be a wedge-shaped thickening of the conjunctiva (pinguecula). The liver and the spleen are greatly enlarged. Leucopenia and anæmia may be present. There is often a hæmorrhagic tendency, which is due to thrombopenia and may be relieved by splenectomy, although the operation has no effect on the general disease. The blood contains a normal amount of cholesterol and the Gaucher cells are negative to lipoid stains. Pathological fractures and angular curvature of the spine occur in some cases, and X-ray examination shows that these are due to erosions of the corticalis, apparently by tumour-like accumulations of the Gaucher cells. The diagnosis is often suggested by the familial history, the colour of the skin, the pinguecula and the bony changes, and it can be confirmed by splenic puncture and demonstration of the Gaucher cells.

Much rarer than Gaucher's disease—and I must warn you that is very rare—is the Niemann-Pick disease or lipoid histiocytosis. All the reported cases seem to have been Jewish, and the majority females. It is a disease of infancy, death always occurring before the age of two years. Not only the liver, the spleen, the bone marrow and the lymph glands, but also the brain and spinal cord, the vessels, the adrenals and the kidneys contain large numbers of "foam cells," which are really reticulo-endothelial cells laden with lecithin cholesterol. The blood contains an excess of cholesterol. Clinically, there is enlargement of the liver and the spleen and a moderate degree of anæmia. Mongoloid idiocy and amaurotic family idiocy have been present in some of the few cases described. It seems that the disease is due to disturbance of the metabolism of lipoids and the piling up of this material in the reticulo-endothelial cells. I shall complete this section on the interesting but rare reticulo-endothelioses by referring to two cases of splenomegaly recently described under the title "splenomegalis plasmodiale." Both were operated on because of splenomegaly, anæmia and leucopenia, and both improved after operation. The spleens contained enormous numbers of giant cells, often of huge size, many of which showed cavities containing amorphous refractive material.

The second group of cases to which I promised to refer are those in which the lymphoid tissue of the spleen is involved. The spleen may be removed on a diagnosis of splenic anæmia, and the histological examination or the future course of the case shows that the diagnosis was really leukæmia or Hodgkin's disease or lymphosarcoma, all of which may present themselves first as an obscure splenomegaly. There is also a rare condition of enlargement of the lymph nodes throughout the body and enormous splenomegaly, with anæmia and hæmorrhagic tendency, but without changes in the white cells, which is due to a general hyperplasia of the lymph follicles. This disease, which is very amenable to X-ray treatment, has been described as splenomegalia lymphatica hyperplastica (Brill *et al.*)

Another rare disease has been described by Foix and Roemmle as endothelial sarcoma of the spleen. This neoplasm arises in the reticulam cells of the Malpigian bodies, and consists of large pale cells with single or multiple vesicular nuclei and pale cytoplasm. Giant cells may form. There is great enlargement of the spleen with multiple nodules, many of which fuse into larger diffuse masses. Metastasis occurs to the liver and other organs, Clinically, in addition to the splenomegaly, there is usually fever and, what is most important in diagnosis, an increase of the large mononuclear cells to 30 per cent. or more. Treatment is by splenectomy when metastasis may be prevented.

Let me conclude what is, I am certain, a very puzzling lecture by giving you a classification of chronic splenomegaly, slightly modified from Naegeli. The primary blood diseases are put first, and should be easily diagnosed on routine investigation. Other causes are put afterwards. If you are unable to make the diagnosis after carefully considering all these possibilities, and if there is no evidence of thrombocythæmia, you should advise removal of the spleen. It can do no harm and it may do a very great deal of good.

Classification of chronic splenomegaly—

1. Hæmolytic anæmia.
2. Pernicious anæmia.
3. Achlorhydric anæmia.
4. Polycythæmia.

5. Leukæmia.
6. Thrombocytopenic conditions.
7. Splenic anæmia and Banti's disease.
8. Cirrhosis of the liver, toxic, alcoholic, biliary, syphilitic or pigmented.
9. Diseases of the portal vein.
10. Infections—septic, tuberculous, syphilitic, tropical, etc.
11. Reticulo-endothelioses (Gaucher, Niemann, splenomegalie plasmodiale).
12. Aleukæmic leukæmia, lymphadenoma, lymphoma, lymphosarcoma, endothelial sarcoma.
13. Tumours and cysts.

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A Recantation

A WELL-WORN adage reads, "Diagnosis is but the balance of probabilities." Occasionally, however, one makes the diagnosis before the pendulum has ceased swinging.

Some time ago (*vide Gazette*, June 29th, 1929), I described a case from Clinical, under the diagnosis of post-varicellar encephalo-myelitis, as yet in the stage of convalescence. Since then, however, events have passed which throw considerable doubt on the original diagnosis. This having been recorded as a case of one of the rarer sequelæ of varicella, I am, therefore, giving its subsequent history.

This was the case of a little girl, Mary M——, aged 6, who two months before admission according to her doctor (a very reliable practitioner) had chicken-pox. Eight days after this, she suddenly developed severe headaches, neck rigidity and pains in the muscles of various limbs—the latter being interpreted as a polyneuritis. She ran an irregular pyrexia for a fortnight, and appeared to be making good progress until about two days before admission. She then had what were described as "screaming fits"—the child suddenly sitting up in bed screaming and clawing the air. On admission she was markedly wasted, and except for occasional nocturnal headaches and her general attitude of "negativism" (which was regarded as a legacy of her encephalitis) she had no abnormal nervous signs. A lumbar puncture was considered inadvisable owing to a large boil on her sacrum.

With such a typical history, the diagnosis of post-varicellar encephalo-myelitis seemed not untenable—the predominance of meningeal symptoms being interpreted as due to a patch beneath the surface producing a localised meningitis and symptoms of irritation.

In the ward for six weeks she made good progress, her headaches disappeared, she slept better at night, and was being allowed out of bed preparatory to her discharge. She suddenly ran an irregular temperature and developed a bad attack of follicular tonsillitis. She recovered after a week, when one morning (3½ months after the onset of her illness) she suddenly had a convulsion—but there were no abnormal physical signs.

She was lumbar punctured and the fluid showed 35 cells (lymphocytes) per c.mm., protein .08 per cent. and chlorides .68 per cent., but cultures from same were sterile. After that, her convulsions became more frequent and were only relieved by lumbar puncture. The number of cells in her cerebro-spinal fluid increased up to 250 per c.mm. (many being polymorphs) the protein rose to .3 per cent. and the chlorides fell to .64 per cent. Direct smears and cultures were negative on all occasions.

At this stage I left Clinical ward with the diagnosis as yet *sub judice*.

S.M.C.

WHEN I became responsible for the child, I found her sensible and intelligent, but with some memory defect for recent events. A slight Kernig and several bilateral plantar responses were obtained, and she resented approximation of her head to her chest. Papillœdema was present in both discs, most marked on the right.

A right-sided convulsion, preceded by severe generalised headache and followed by effortless vomiting, was relieved by lumbar puncture which gave a fluid showing the following characteristics.

The fluid was slightly cloudy, and under a pressure of 300 c.c. H_2O showed 1,500 cells, mostly

polymorphs, with a protein of 0.40 and chlorides of 0.64. No tubercle bacilli or micro-organisms could be detected.

Her symptoms were relieved by the lumbar puncture, but soon recurred, and on the 26th of July another lumbar puncture was performed, the fluid being under a pressure of 170, but containing 1,940 cells with a protein of 0.40 and chlorides of 0.68. Again no tubercle bacilli or micro-organisms could be detected.

Although relieved for a few days, the child became rapidly worse and sank into semi-coma, disturbed only by a short fit. The Kernig was now positive, the plantar responses both extensive, and the abdominals absent. Head retraction was present and the papillœdema worse.

On 1st August, a third lumbar puncture was performed, and 25 c.c. of fluid under a pressure of 250 mm. H_2O were withdrawn. The fluid was tinted and contained hundreds of cells 65 per cent. polymorphs, 20 per cent. large mononuclears, and 15 per cent. lymphocytes. No tubercle bacilli could be detected, but meningococci were found in two pus cells after prolonged search. Cultures, however, remained sterile.

On the following day, she had a fit lasting a quarter of an hour and followed by uncontrolled vomiting. Rectal alimentation was therefore resorted to.

On the 3rd she was lumbar punctured again. The fluid was under a pressure of 250 and was tinted. On this occasion, the fluid was collected direct into a culture tube, a blood agar slope, until the slope was wholly submerged. The tube was then heated, the cotton wool plug cut off short, and while still hot, a rubber cap placed over the whole. Thus, when the tube cooled the organisms were subjected to a reduced oxygen pressure and optimum conditions for the growth of the meningococci obtained, *i.e.*, they were planted at body temperature under reduced oxygen tension and incubated immediately. After 24 hours, the cerebro-spinal fluid was poured off and the culture incubated, again under reduced oxygen tension, for a further 24 hours.

It was by adopting this method that the subsequent cultures were obtained.

She was then lumbar punctured daily and 15 c.c. of polyvalent antimeningococcal serum given intrathecally, the various marketed brands being used in rotation.

By August 7th she appeared fitter, and became perfectly rational and coherent, whereas she had previously been in semi-coma. It was then suggested that serum should be given by the intracisternal route, and accordingly a cisterna puncture was performed and 10 c.c. of serum introduced. This was repeated on five occasions, and in all 40 c.c. of serum introduced by this route.

Despite daily puncture the vomiting became worse, and it was difficult to feed her since the rectal salines were not retained. Intravenous glucose was therefore given daily with serum and calcium chloride in the hope of preventing severe reactions.

The number of cells in the c.s.f. increased until the 10th, when the number reached 2,800 and the fluid appeared purulent. The count then gradually began to diminish and the final punctures showed only slightly turbid fluid.

Two days later, a negative culture was obtained, but organisms reappeared in subsequent examinations. After three more positive cultures another negative was returned.

On the 18th August a generalised urticarial rash appeared which lasted six hours. There were no further symptoms attributable to the serum.

She was now vomiting everything taken by mouth, and Dr. Ironside suggested that the only method of relieving this was ventriculo-puncture. He did this by means of a Goetz drill under very light anæsthesia and withdrew 12 c.c. of slightly turbid fluid from the right ventricle and 10 c.c. from the left. The effect was magical; the child who had been vomiting every one of her very small 1-hourly feeds began to take fluids well, and in the last 48 hours of her life, although 2-hourly feeds, vomited only twice.

On the morning of the 22nd of August, her respirations fell to 10 per minute, although she appeared conscious and continually called "nurse" in a reflex manner. A lumbar puncture was performed, but only 3 c.c. of fluid could be obtained.

On return to bed she continued to call out for several hours until at 10 that night, she suddenly stopped and nurse found her dead.

At the autopsy the child was found to be exceedingly wasted, but there were no bedsores. The spleen was small, but quite normal; the lungs showed some terminal congestion; the kidneys showed fœtal lobulation, but were otherwise normal. The lymph glands were not enlarged and no trace of tubercle could be found.

An infected area, about one inch in diameter, and in the dura only, marked the entry of the ventriculo-puncture needle. The site of entry into the brain substance was only a faint line and the course through the brain could not be traced at all.

The convolutions were flattened, but the meninges on the vault were normal in appearance. At the base the meninges were perfectly clear, but over the interpeduncular fossa and spreading

backwards over the cerebella they were gummed together. There was no trace of pus anywhere.

The ventricles were distended with a slightly turbid fluid, but the internal punctures of the needle could not be found at all. No tumour was revealed or serial section.

The meninges of the cord were free and nowhere gummed together and the end itself normal in appearance. A smear made from the meninges at the base showed very few polymorphs, and two were seen containing meningococci.

The case affords an interesting study from more than one point of view.

(1) The first attack must have been the onset of the meningitis, and this was the opinion of the doctor who first saw her. Then the long remission followed when the infection was probably localised. It was during this phase of the illness that the first lumbar puncture showed only 30 lymphocytes. The protective adhesions were then broken down, and the meningitis became generalised. The massive dosage of serum given intravenously and intrathecally by lumbar, cisterna and ventricular routes caused a resolution of the process, and at post-mortem a healed meningitis and its almost invariable accompaniment internal hydrocephalus were present.

(2) The meningococcus is notoriously difficult to find, both in direct smears and a cultivation, and the method adopted for its cultivation gives the organism the optimum conditions for growth.

(3) The cisternal route for the administration of serum possesses many advantages. Ayer[1] showed that 20 c.c. of Indian ink introduced by cisterna puncture stains the entire cortex, whereas the same quantity introduced by lumbar puncture only stained the base slightly; Ebaugh[2] reports a case with both spinal and ventricular block which was treated by lumbar cisterna and ventriculo-puncture and which recovered without sequelæ.

(4) The remarkable effect of ventriculo-puncture in stopping the vomiting suggests that this method might be used more often for the relief of symptoms due to internal hydrocephalus.

I wish to thank Dr. Campbell for permission to publish this case and Professor Eyre and Dr. Ironside for their help.

C. F. C.

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Date.	Operation.	Pressure.	Amount withdrawn.	Cells.	Protein	Meningococci.	Serum intrathecal.	Intravenous.
7/7/29	L.P.	.....	.....	30 lymphocytes	.80	—	.....	.....
10/7/29	L.P.	.....	.....	Hundreds Polymorphs	.30	—	.....	.....
13/7/29	L.P.	.....	.....	1,400	.30	—	.....	.....
17/7/29	L.P.	300	.....	1,500	.40	—	.....	.....
26/7/29	L.P.	170	.....	1,940	.40	—	.....	.....
1/8/29	L.P.	250	25 c.c.	Hundreds	.40	Direct + Cult —	.....	.....
3/8/29	L.P.	250	25	800	.30	+	15 c.c.	.....
4/8/29	L.P.	320	35	.....	.....	+	15	.....
5/8/29	L.P.	250	50	.....	.....	+	15	.....
6/8/29	L.P.	320	.....	.....	.....	+	15	.....
7/8/29	C.P.	.....	.....	1,540	.20	.....	15	15
8/8/29	C.P.	310	10	1,960	.28	+	10	.....
9/8/29	C.P.	.....	10	.....	.....	+	.....	30
	L.P.	.....	20	1,600	.24	.....	15	.....
10/8/29	C.P.	.....	10	.....	.....	.....	.....	.....
	L.P.	.....	25	3,800	.65	+	15	.....
12/8/29	L.P. blood drawn	.....	20	2,000	.40	—	8	30
14/8/29	L.P. yellow	.....	.....	.....	.....	.....	15	30
16/8/29	C.P. ,, ...	350	18	1,490	.....	+	15	.....
17/8/29	L.P. ,, ...	over 350	30	.....	.....	+	.....	.....
18/8/29	L.P. ,, ...	over 300	20	1,400	.40	+	10	30
19/8/29	L.P.	310	30	700	.32	—	.....	.....
20/8/29	V.P. Right	.....	12	370	.....	+	10	.....
	Left	.....	10	400	.....	—	.....	.....
22/8/29	L.P.	.....	3 c.c. only	.....	.....	—	.....	.....

Nocturne

CREAK! Hullo, what's that? Oh, that door again. Its a curious characteristic of doors that they squeak at night—like cats. Or perhaps they do not squeak at all really. Perhaps the plaintive cry that they appear to emit is really the nocturnal movement of a fevered mind or the turning of a troubled conscience. How burglars must hate doors.. Squeak, squeak, squeak There it goes again. Oh, well, never mind. Who cares anyhow? The Troubled Mind settles down to rest again. But there is no peace. What's that constricting the chest like an iron band? Why do sheets hinder one's rest instead of soothing into untroubled slumber? Perhaps this again is an illusion, a figment of a mind disordered by an overpowering desire for sleep. This sheet certainly seems malicious. The life of a hospital sheet is full of adventurous change. Starting as a wide expanse of utter whiteness, it is gradually broken up into a thousand fragments. This piece may be fated one day to cover the pillow which supports the head of ——— oh, its too long. That piece tickling the left ear will, no doubt, act efficiently as a cord dressing for some luckless Extern. The particularly spiteful piece which has become entangled in the left foot, rendering that member devoid of all feeling, deserves no fate better than that of a scourer of some disreputable sink. To continue this trend of thought, it is easy to visualise the diabetic diet sheet, upon which it is always so difficult to lay one's hands in a medical ward, in its previous incarnation as a small corner of a counterpane. This brings one to the counterpane, which, like ladies' clothes, alters continually in fashion, one year being tucked in at the end of the bed, the next year draped elegantly over the end; one year being plain, the next year relieved by a medallion in the centre, which is strangely reminiscent of a similar device on the pats of butter in the College. But this is the aimless meandering of a disordered mind—rather like a game one is sometimes forced to play, in which someone suggests a common object, such as a tree, the next player admits what a tree suggests to him, such as "leaves," the next may say "books," and so on round the circle until everyone is tired out, and then the intolerable sequence has to be unravelled backwards. There should be some law which forbids those parties which are characterised by games with paper and pencil and similar nuisances. Perhaps an amusement tax on pencils would be sufficiently effective to damp the ardour of all but the most persistent—and wealthy—hostesses. The thought of these parties had such a stupefying effect on the Troubled Mind that sleep prevailed once more. Peace, however, was soon shattered by peculiar but characteristic noises further down the ward. Poor old Number Five. He was at it again. It was really not surprising that sleep should be a troublesome guest to entertain under these conditions. The welcome offered was such a poor one. Perhaps the unwilling guest would return if courted on the left side instead of the right. Besides the right arm was getting rather numbed. No, it seemed to make no difference, although Number Five had stopped at last and returned to his customary nasal concerto .After all, why should it? It was only too characteristic of one's attitude towards life in general. Alter one's environment and one's luck would change without any personal effort. But it rarely succeeded and one was constantly driven back to the reluctant conclusion that in order to accomplish anything one must do something about it. Life would be so much easier if Fate would play her part more wholeheartedly and arrange one's life as she thought fit. Not only would life be easier and more tolerable, but also far more successful and pleasant, since all the element of personal effort and personal competition and striving would be lacking. Anyhow, it was very certain that sleep would not come in response to personal effort however urgent. The tighter the eyes were closed and the more thoroughly the mind was concentrated on a complete blank, the more reluctant was sleep to come and give relief. And sheep were useless. In the first place, how many of us have ever seen sheep going over a stile? Or was it a gate they were supposed to go through? Oh, dear, it was all very difficult. Besides, sheep are such stupid animals that any self-respecting person would surely scorn to use them as a means of obtaining slumber. It would be rather like prostitution. Perhaps elephants going up a ladder would be more effective and less dull. Or camels passing through the eye of a curved cutter. But that would be too ridiculous, and ridicule must be avoided at all costs, since the effect added to a semi-stuporose state, might be to induce a mania of dangerous proportions. Perhaps, a flight of birds—birds? Starlings? No, starlings kept one awake; they made so much noise chattering in the trees outside like the monkeys at the Zoo. All seemed quiet at the moment; one might sleep. One did. One dreamed! In the dream one seemed to be rushing headlong across a ravine in an express train. All was dark. Suddenly, there was a dazzling flood of light. Consciousness had returned.

"Ye-es. And are you sleeping well? Ye-es?" The voice seemed vaguely familiar.

OMNOPON.

ORAL EPITAPHS I

No single day sufficient is
For all the work in stove for him;
Tho' he should work a double day
There'll still be plenty more for him

Ethics

The Presidential Address delivered at the Opening Session of the Guy's Hospital Dental Society, Tuesday, October 8th, 1929, by F. N. Doubleday, L.R.C.P.Lond., M.R.C.S., L.D.S.Eng.

GENTLEMEN,—I thank you for the honour which you have done me, in electing me to this office. I wish to congratulate your retiring President, Mr. Lloyd, and his committee on the session which was held during last winter. I hope that we may be equally successful in the coming year.

You have asked me to take Ethics for the subject of my presidential address. As you well know, the word is derived from the Greek ἔθος, meaning conduct. Conduct may be viewed in its general aspect, in which it shows what a man really is, or in its more restricted sense, as it is applied to the limited scope of professional conduct. The first or general view is the essential thing. For what a man really is will come out in every relationship of life. The success or failure of a professional man is very largely a question of his character and personality and this displays itself in his conduct. May I at once emphasise for you how high a vocation a professional man has. His patients are absolutely dependent upon him. He does not sell them medicine, or fillings or legal documents. They depend upon him and pay him fees, for his integrity, his knowledge and his skill. This is absolutely true whether the patient appreciates it or not; they are in your hands, and, looked at over a period of years, whatever you do for them, whether great or small, has a definite effect upon their life and health, and the view they take of all their professional advisers. So high a part does your conduct play.

You see then that a professional man must first be honest. This may appear to be a startling statement, it needs elaboration. I do not imply that the professional men with whom I have been brought into contact are not honest, I am sure that the average man in every profession does his very best for those who consult him. But, examining myself, and trying for your benefit to find the deeper meaning of this word, and to bring that meaning out into the light, I say that by honest conduct I mean the constant effort to get at the root of your patient's troubles; to employ incessant labour of mind and of technical skill; *to think* so that the knowledge so acquired is rightly balanced and the patient given the greatest assistance of which his adviser is capable. Any professional man may be in error and give mistaken advice, but if he knows that the opinions which he offers are founded upon an earnest and real striving after the truth he has nothing with which to reproach himself; further, he will speak with a conviction and a directness which will win the confidence of those who consult him. For twenty-five years as a student and a member of the staff I have been acquainted with a doctor who is now a consulting physician to this hospital. During all these years he has always been known as "Honest John." This simple phrase exactly describes the man and his work, and is a precise instance of the height to which a professional man may rise and of the standard towards which our aim should be directed. To thine own self be true.

Then I think we must realise that our lives will be hard working ones. We must study, practise and think incessantly. It does not follow that we shall enjoy no free time. Perhaps few occupations afford a better opportunity for reasonable leisure than a well conducted dental practice. The fact that in a proper organisation the patients are seen at fixed hours enables the dentist to control his periods of work and of recreation and gives him the chance to bring out the best that is in him; provided that he has thought out what his life work is to be and follows this plan with unswerving application.

I put study next to honesty. By study, I mean continual thoughtful exercise, both of the brains and of the hands, and a constant effort to realise where our practice is leading us. A study first of the diseases and of the manner of life of the patients with whom we are dealing; and then, at regular intervals every year, a consideration of the results we are achieving, for our patients first and for ourselves as a secondary, but important, consideration. I take extended holidays at Christmas, Easter and Summer, and in these give a definite time at the beginning of each day to study. In this way it is possible to really grapple with certain professional subjects and books which seem to me important; to carefully analyse the various records, technical and financial, of the practice which I am conducting; and to give some part of this time to the study of general literature, because I believe that we should strive to be whole men and not professional monstrosities.

Turning now to the more limited field of dental practice, we must first consider to what end your studies are leading. Most of you will become assistants and ultimately general practitioners. I hope that all of you will serve the public in some honorary capacity on a hospital or a dispensary staff; that the more ambitious among you will

strive to become teachers of this or another hospital and to loyally accept the sacrifice of leisure which such a course of action involves. Some will enter the public service as school dental officers, officers in the Royal Navy, the Army or the Royal Air Force, and I hope that before many years have passed endowments will be provided which will enable some graduates to take up teaching and research in a satisfactory manner and for a sufficient number of years.

To be a really good assistant for some time after obtaining a qualification is the wise thing to do. This period is best spent in two or three different practices and localities. By this means the novice completes his education, learning to adapt to the limitations of practice the lessons he has learned in hospital and studying the various methods of administrative work which are to be mastered if practice is to be successful. The assistant must be prepared, for the limited period of his assistantship to put himself wholeheartedly at the disposal of his principal. Without doubt, he will become keenly aware of various shortcomings on his chief's part. These he may inwardly note for his future guidance, but an assistant should always remember that the patients are the followers of his principal. It is generally useless for an assistant to hint to patients that his knowledge is more recent than that of his chief. The best type of patient comes to the practice because they believe in the principal, and any suggestion which tends to shake this belief is ethically wrong and will prove unacceptable. Let me as a rare and unusual case, of an extreme type, quote to you an instance which occurred recently. A young man, who had enjoyed a brilliant career in this hospital went as an assistant in a practice. After a time, he began to book appointments very late in the evening. When later, he left this practice and started for himself in the same neighbourhood, it was found that in this evening time he had copied the names and addresses of his principal's patients and when he commenced practice he informed them all of his new address. Many of the patients at once wrote to the principal of the original practice asking the meaning of the letter. From consideration of the youth and folly of the assistant, the principal refrained from a criminal prosecution, and was contented with a large sum of money which the boy's father paid by way of compensation. This is, happily, an extreme case, but the same thing does sometimes occur in a lesser degree where a man goes as an assistant and then commences practice in opposition to his principal. It is wrong, and I cannot too strongly impress upon you that the whole of a professional man's life depends essentially upon the observance of the highest standard of honourable conduct. The best patients come to a professional man out of respect for his personality and character. If at the beginning of your professional life you fail to appreciate this and make a false start, you will never really recover or attain to the type of practice and measure of success which might otherwise be yours. It is not only a question of ethics, it is also a matter upon which commonplace material success depends.

I want next to put to you some of the points which twenty-one years' experience as a practitioner of dentistry have taught me. I have almost overstressed the fact that absolute integrity of conduct comes first, and now I want to glean some of the smaller lessons which emerge from what has been for me a very happy and lucrative practice. I believe that careful written records are essential. No doubt, those of you who are dressers on my firm, often grudge the insistence upon a properly written report of the patient's condition. I do it because my own practice has taught me that unless a definite record is made in writing at the time, clear thinking on any case or type of illness is impossible. Without written record your practice is empirical; the impressions you gather are mental inaccuracies, unchecked by facts, and your knowledge of your profession will never really advance. Moreover, the financial success of your practice depends precisely on this matter of record keeping. In many years of intimate friendship with many dental men, I have abundant opportunities of learning what the average prospect of success in practice is. I say without hesitation, that success is available for every man in dentistry, and that those who complain of overwork and lack of success, do so because they fail to maintain their professional knowledge by contact with their fellows and because they are bad record keepers. I have before me a set of cheques and book-keeping records which are used in the North Western University in Chicago. There every student's work is apprised in dummy dollars and not in marks, and he is trained to realise that his operating represents a high standard of monetary value from which he should not depart. This method is unsuited to the custom of this country, but a real meaning lies behind the thought which is of value to you. What you are as students you will continue to be as practitioners. One of the reasons why the general reputation of dentistry is higher in Canada and the United States than is the case here, is to be found in the fact that the average practitioner across the water takes a much keener interest in his professional organisations than is observed among us. The attendance at meetings is pro-

portionately higher and the enthusiasm shown is much greater. This we younger men must rectify and carry the reputation of our profession onwards with us. I hope that in due course you will all become active members and real workers in the British Dental Association and the other professional organisations. Here may I say a word about those who seek to disparage your profession. Dentistry is slowly rising to a higher status, but many people are still ready to decry and look down upon the profession and some dentists deserve such treatment. They suffer from an inferiority complex which is very detrimental both to their patients and to themselves. Lest you are ever discouraged by such conduct, let me remind you that it is not so many years ago that medicine had to suffer similar indignities. If you read Jane Austen's novels you will see how the clergyman of the beginning of the last century was expected to leave the dinner table before the sweets were brought on; to go back further, Shakespeare shows, clearly enough, how slightly the average lawyer was esteemed in his day. In the first half of the last century there was on the staff of St. George's Hospital a physician named Thomas Young. He was not only an able doctor, but as a scientist he discovered the mechanism of the lens of the eye and his interest in general knowledge was so great that he was the first to decipher the cunieform inscriptions upon the ancient bricks of Egypt. Yet, in 1852, his biographer, an Oxford don, saw fit to apologise for his entering the degrading profession of medicine. The greatest literary man Guy's has produced, John Keats, the poet, had his work derided in the *Quarterly Review*, owing to the circumstances that he had been trained, as a surgeon, in this hospital. He was told "it is a better and wiser thing to be a starved apothecary, than a starved poet," and bidden to return to his gallipots. If these things were said so recently about men in the medical profession we can afford to ignore equally foolish remarks about dentistry. If you have a thorough knowledge of your profession and such a character as commands the respect of your patients, you will be gratified to find that many of them will accept and follow what you say in preference to any other adviser whom they may have. Therefore, if you have difficulty of this kind, remember to stand firmly on your ground: "In quietness and in confidence possess ye your souls."

While on this subject, may I say a word regarding the difficult times through which most of us have to pass. The first years of practice are often very hard financially. I had myself to borrow money to complete my medical education and to start practice. The coming of the war kept me heavily in debt for the first twelve years making it a long struggle. Fortitude will surmount any difficulties and make a man the better for them. May I remind you of the lines of another doctor, W. E. Henley, of Edinburgh, after years' of ill-health and discouraging struggles he could write thus:—

"Out of the night that covers me,
Black as the pit from pole to pole,
I thank whatever gods may be
For my unconquerable soul.

In the fell clutch of circumstance
I have not winced nor cried aloud,
Under the bludgeonings of chance
My head is bloody, but unbowed.

Beyond this place of wrath and tears
Looms but the Horror of the shade,
And yet the menace of the years
Finds, and shall find, me unafraid.

It matters not how strait the gate,
How charged with punishment the scroll,
I am the master of my fate;
I am the captain of my soul."

What is it, beyond character, that makes for successful practice? Scrupulous cleanliness and orderliness are one thing. A practitioner's hands, clothes and equipment must be above suspicion. I take care to wash my hands under every patient's eyes before examining them, and all my towels and instruments are steam sterilised and might safely be used in the abdomen. One's breath must be free from tobacco or any other smell, this is a point about which both doctors and dentists tend to become casual as the years go by. It is a very valuable thing to develop the habit of punctuality. If you know that you have a fixed period which belongs to each patient you soon learn what you can efficiently do for them in that time. For some years now I have seen eighteen patients a day; working for ten months in the year, with two very loyal and efficient nurses to help me and four operating rooms at my disposal, life goes smoothly and easily for us all. As your practice gets busy you need to weed out those patients who are ill-tempered and troublesome, then those who fail to pay promptly, and lastly, those who do not keep their appointments regularly and punctually. In this way you gradually develop a very solid and comfortable practice.

The question of fees is closely related to this. I have always tried to charge reasonable but not excessive fees. What is a reasonable fee depends upon a man's experience and standing in the profession and upon the locality in which he is practising. In my own practice there are scarcely any bad debts and 97 per cent. of the patients pay

their fees immediately. It is better to have reasonable fees paid into your banking account and securely invested than to have larger ones outstanding which the patient may, or may not, pay in time.

Reference must be made to legal difficulties which may occur. Two actual cases will best illustrate what is required. They emphasise the necessity for careful record making and of belonging to a properly organised legal society such as the London and Counties Protection Society or the Medical Defence Union. The first of them was a case where a dental surgeon was coning a root with a sharp stone, when an unexpected movement on the part of the patient caused severe laceration in the floor of the mouth, a vessel was cut and severe hæmorrhage ensued. Later the case came into court, and an eminent surgeon, who first saw the case several days after the injury, swore that the lingual artery had been cut. As it was not disputed in evidence that the dental surgeon had stopped the hæmorrhage himself by digital pressure, the statement of the eminent surgeon that the lingual artery was cut is of considerable scientific interest. Had the case been more carefully prepared it might have been disputed. As it was, the dentist was mulcted in damages. In the other case, a dental surgeon fractured the root of a lower molar in attempting to remove it, osteomyelitis of the mandible supervened, and a general surgeon from a London hospital who was called in, treated it as he would have done an osteomyelitis of the tibia, he made an incision six inches long and laid open the body of the mandible freely. In doing this, he fractured the jaw which led to my being called in to treat the fracture. When I asked for the skiagrams of the case the reply was that the patient was much too ill for them to be taken. This difficulty having been surmounted, the resulting picture showed that the root which was the original cause of the abscess was still present. When the sound surgical principle of removing the cause of the trouble had been carried out, the patient rapidly got better. In spite of this, the dental surgeon had to pay £350 because he had written a letter to the patient's relatives saying that he would be responsible for any fees incurred in treating the case. In both these instances if the dental practitioners had kept careful records, held their tongues, and taken proper advice, the results would, I believe, have been very different.

This leads, naturally, to the consideration of the loyalty of professional men to one another. In a court of law one must state honestly what one believes to be the facts, but in private conversation with patients extreme reticence regarding a colleague's treatment is the proper attitude to adopt. Patients will often come very ready to impute careless or improper treatment against another doctor or dentist. You should never admit it. Always remember that you do not know the circumstances in which the other man's advice or treatment was given. You are only partially acquainted with the facts which influenced his judgment, and the patient often, intentionally or unintentionally, endeavours to warp your opinion against your brother practitioner. Never allow it to be done and always endeavour to defend and cover the action of your colleagues. If all men would do their utmost to be loyal to their professional brethren through thick and thin, the best results would then be achieved.

A very difficult situation arises when a patient leaves one man and seeks to become the patient of another. It cannot be prevented. I know that for various reasons patients leave me and go under the care of my friends. When it happens that a patient comes to me under these circumstances, I always make a full and honest endeavour to induce them to return to the fold from which they have strayed and to explain away whatever may have given them offence. If a real effort of this sort fails and I find the patient resolute in the action they have taken, I allow them to remain, but I first write to the colleague from whom they have come telling him as nicely as possible what has occurred and giving him the opportunity to write to them and regain them if he so wishes. Small jealousies over these things are useless, and in the long run, such occurrences work out very evenly as between different practises. Sometimes by frankly corresponding with your colleagues you will find that the patient has left to avoid paying an account and you will be saved from entertaining a devil unawares. Here again, you will see the value which comes to every man who attends professional meetings. If you are personally acquainted with your colleagues and meet them from time to time, misunderstandings become difficult and explanations are easy. Through friendly meetings under the auspices of our professional societies, we should all be a band of brothers and not a collection of footpads looking with suspicion on the actions which our fellows take.

And now, gentlemen, I wish to end this address by quoting to you the advice which Shakespeare puts into the mouth of Polonius when his son, Laertes, is about to leave him on a journey to Paris. I wish that it could be engraved on the

desk of every student and practitioner, for it is golden advice and is as follows :—

" There ; my blessing with thee !
And these few precepts in thy memory
Look thou character. Give thy thoughts no tongue,
Nor any unproportion'd thought his act.
Be thou familiar, but by no means vulgar.
Those friends thou hast, and their adoption tried,
Grapple them to thy soul with hoops of steel,
But do not dull thy palm with entertainment
Of each new-hatch'd unfledged comrade. Beware
Of entrance to a quarrel ; but being in,
Bear 't, that the opposed may beware of thee.
Give every man thy ear, but few thy voice ;
Take each man's censure, but reserve thy judgment.
Costly thy habit as thy purse can buy,
But not express'd in fancy, rich not gaudy ;
For the apparel oft proclaims the man ;
And they in France of the best rank and station
Are of a most select and generous chief in that.
Neither a borrower nor a lender be ;
For loan oft loses both itself and friend,
And borrowing dulls the edge of husbandry.
This above all ; to thine own self be true,
And it must follow, as the night the day,
Thou canst not then be false to any man."

REVIEWS

Recent Advances in Psychiatry. By HENRY DEVINE, O.B.E., M.D., F.R.C.P. Pp. 340. Published by J. & A. Churchill, London, 1929. *Price* 12*s.* 6*d.*

HOW is the author of a book purporting to summarise recent advances in any branch of medicine to set about his task ? There are, roughly, two ways. Firstly, he might read the original papers that have appeared in the fairly immediate past. (Presumably, it will be left to him to decide upon the length of the period which is to be regarded as "recent.") These papers he will abstract, and in the measure of his inclinations criticise, or compare with one another.

The result would be a book of a highly impersonal kind in which the subject matter constituting the recent advances in question would be objectively summarised and discussed. If the author had himself contributed to these advances, he would mention himself under his surname, and relegate his papers to a numbered reference as he would those of other authorities.

According to the second way, the author would impart to his book a personal note. At the outset, he would propound some sort of theme or principle, which in the subject matter of the book would be expanded and elaborated. The "recent advances" would then be fitted into this general theme, and the book would be stamped with the personality and outlook of the author.

In the book under review, Dr. Devine has followed the second course, and he is to be congratulated on the result that he has achieved.

The "fundamental thesis" of the writer is that "morbid reactions are not due to some single or isolated factor, but to the reciprocal influence of an indefinite number of factors." The author claims that his outlook is biological because he thinks of the individual in terms of œcology. "According to this conception of the organism, its past and present environment, physiological and social, constitute an organic whole, one and indivisible." From this outlook, the author's conception of heredity flows logically. He is opposed to the view that the laws of heredity are immutable and outside of human control. In contrast to this cabalistic view, the principle of blastophoria is expounded at some length : the principle that the ovum and embryo may be damaged by diseases and excesses of the parents. Alcohol, tuberculosis and syphilis take the first place as agencies that may damage the germplasm. From the social point of view, this is a more hopeful view than the one which regards the hereditary genes as immutable. It constitutes an interesting reversion to the views of Herbert

Spencer, who, for purposes of his "Data of Ethics" was anxious that acquired characters should be allowed to contribute to human heredity. Dr. Devine writes: "Certainly it is to-day firmly established that we profit both mentally and physically from the good health of our ancestors, and it is equally true that we are the victims of their maladies and indiscretions." An admirable moral incentive for the prospective parent.

Another most important theme of this book is the inter-relation of psychological and physiological processes. The organism is regarded as a "biopsychic unity," indissolubly one with its environment, in which the "past is inherent in the present in the fullest possible sense," and in which mental and physical processes proceed with unvarying concommitance. By this view, the general arrangement of the book is guided.

It is assembled in four parts. In the first are reviewed the deleterious effects which toxic, infective and somatic processes can produce upon the mind. In the second part, the peculiar circumstance is discussed that the "same infectious and toxic agents which are liable to stimulate psychotic reactions may also, on occasions, exert a favourable influence on the course and outcome of pre-existing mental disease." Not only does this happen of infectious and toxic agents, it happens also of emotional stresses and shocks, where those same agents which may excite a psychosis may also lead to its amelioration or cure. In this part are considered such therapeutic agents as peptone therapy, fixation abcesses and malaria. In part three, are described the physiological anomalies which accompany psychoses such as the basal and carbohydrate metabolism of psychotics, and the hæmoclastic crisis. In part four are discussed the "Biogenetic psychoses"; *i.e.*, schizophrenia and manic-depressive insanity, stress being laid on the types of physique and the pathology which are said to be associated with these disorders. Part five contains four chapters which deal with the relation of psychology and the psychoses. It will be seen how the arrangement of the book elaborates the author's "fundamental thesis."

The book is written in an agreeable style, which contains some rather startling phrases. Thus, the author speaks of "Biopsychic Catharsis," of the organism being "impregnated with psychism," of the "psychic organ," and (bold hybrid), of "biomental reactions." He is also addicted to Gallicisms, such as "tendency to react by anaphylactic shock to pathogenic agents the most diverse." In fact, Gallic rather than Teutonic influences predominate throughout.

This book is hardly to be recommended to the student. It does not aim at giving set-piece descriptions of the various mental disorders with differential diagnosis and treatment, and would afford little guidance in answering the fairly straightforward questions that are usually asked about mental diseases in general medical examinations. But it would be more valuable to the general practitioner who would derive from it a useful and workable orientation towards psychological illness.

Dr. Devine is to be congratulated on the skill with which he has woven into a basic philosophical framework a host of different medical themes.

The Treatment of Rheumatoid Arthritis. By A. H. Douthwaite. Published by H. K. Lewis & Co., Ltd. *Price* 6*s*.

THERE are certain, at present, intractable diseases which are as a clover field to the printing profession. Upon such fields our Tono-Burgays have fed and grown fat. In each new publication the general practitioner hopes to find at last the elusive secret that will stop the pains and the disgruntled groanings of the incurables.

Dr. Douthwaite has been too honest to make a fortune from his small book on Rheumatoid Arthritis. He claims no magic four-leaved clover. The only, yet ample praise that he can ask, is balance.

With such a vast literature and such extravagant protests by various workers it requires considerable personal experience of this disease to make an intelligent assessment of the multitudinous theories and treatments that are available. Dr. Douthwaite has had the advantage of some years general practice in which to study the end results of various methods.

The first part of the book discusses the ætiology. Despite the desire expressed in the preface to steer a middle course between focal sepsis and endocrine derangements, the conclusions are in agreement with Llewllyn's belief that the important underlying factor is one of diathesis based upon a definite endocrine disturbance. This conception is of fundamental importance in prophylaxis and treatment. The second part on treatment is divided into three sections. The first part deals with early cases, and is an attempt to rectify the peculiar insufficiencies of the diathesis and to prevent secondary stress on the poor soil. Balneotherapy, massage, heliotherapy, elimination of sepsis, vaccines and medicinal methods are discussed. Dr. Douthwaite has no hesitation in driving another large nail into the almost completed coffin of extensive vaccine therapy.

The second section attacks the developed disease. To prevent deformity splinting, massage and movements are to be used in addition to the general treatment of the first section. Then comes the optimistic third section in which those quiescent cases that have developed deformities are subjected to manipulation. The technique advised and the eulogy of bone setters is reasonable enough, but our orthopædic surgeons will not agree that such good results are so easy to obtain. Dr. Douthwaite has taken the function of scavenger. He has courageously cleared the rheumatoid dust heap and recovered that which is good.

Heart Disease in Childhood. By H. B. RUSSELL and C. K. J. HAMILTON. (Modern Medical Monographs.) Pp. 96. Published by Messrs. Constable & Co. *Price* 7*s.* 6*d.*

ONE comes from the reading of this work with an impression definitely confirmed—that the text book of General Medicine is the poorest medium for reading for examination purposes. Although the actual material knowledge contained in this monograph could be fitted into a very few pages of a text book, yet the manner of its giving, the way in which the facts are spaced amidst the commonplaces, the easy conversational tone of the book, gives one a feeling of confidence and intimacy with the subject that must prove invaluable both for practical and more academic occasions. One feels that the authors have tested every fact to their own satisfaction, and the reader is brought along with them, as it were, through the whole range of the subject, now at the bedside of the patient, now in the autopsy room or the electro-cardiographic department. If this atmosphere were intentional, then they have succeeded admirably.

There is little to read in this book that one finds startling or fresh. The hardened physician might even be bored with it, but not whilst reading the excellent first chapter headed "General Considerations." It will be difficult to find a more clear, more interesting or helpful dissertation on physical signs than this. Mayhap we will be treated to a similar chapter on adult chests in a later book.

The only criticism to which the book is open is, perhaps, that at times it rises to heights of futility. To take a random example: It discusses the operation of cardiolysis (the removal of portions of ribs overlying the heart) in adhesive pericardium. And at the end of the paragraph virtually dismisses it from the realm of practical politics on the ground of its overwhelming dangers. Surely the removal of this and certain other pieces of intensive literary make-weight might allow of the introduction of the adult cardiac pathologies. If the title were changed appropriately and the necessary additions made to the text to include heart disease in the old as well as the young, this is, undoubtedly, a book which would find its way to every student's book shelf, and be among his most treasured possessions.

As it is, it is to be heartily recommended to anyone who has a few shillings to spare on his text books; infinitely more useful than the diaphragmatic-chest-pieced stethoscope that some of our chronic out-patient haunters glory in.

A Graphical Guide to Clinical Surgery. By Prof. NAEGELI. Published by Messrs. John Bale, Sons & Daniellson, Ltd. *Price* 12*s.* 6*d.*

A PRODUCT of Bonn University is commendation in itself, and in endeavouring to fill the gap of elementary surgery graphically, Prof. Naegeli has produced a book in many ways unique. The endeavour has been to collect clinical entities as grouped diagrams with a secondary text. Our criticism of such a scheme is, undoubtedly, favourable, but the unfortunate tendency in this volume is to redundancy of illustration. As instances, we may quote the artistry of the pistol delivering the intestinal bullet wound; the two dials indicating the five minutes necessary for Hilton's method of abscess incision. Further, several diagrams, notably that showing the blood supply of the thyroid gland, are anatomically grossly incorrect. Apparatus, such as Oehlecker's for blood transfusion, is but an expression of the continental origin of the book.

Nevertheless, there are many two and three-colour diagrams of refreshing originality and clear import, and the text is throughout sound and helpful; in particular upon inflammation and infection, and their surgical treatment. The inclusion of pulse charts is admirable, although the scaling is centigrade, and the volume is one we can commend to those in the pre-clinical or surgical clerk appointments.

C. KEITH SIMPSON.

Moveable Kidney. By W. BILLINGTON, M.S.(Lond). F.R.C.S.(Eng.), Published by Messrs. Cassell & Co., Ltd., *Price* 12*s.* 6*d.*

NINETEEN YEARS after the first edition, which, one gathers from cryptic remarks in the text was subjected to a certain amount of scepticism the author has re-edited his book in the hope that his twenty-five years of experience will allay suspicions about the inefficiency of nephropexy. It seems doubtful if the object will be achieved, because it is patently obvious that the author is entirely biassed in

favour of the operation as a panacea for the most diverse ills, but particularly for neurasthenia.

Early in the book statistics are given to show renal mobility is present in about 10 per cent. of all people. It seems to be certain from this book, that they have only to get "neurasthenia" to justify nephropexy. It would have been wise to investigate these cases more fully before submitting them to a major operation. Tests for renal efficiency, the blood pressure and blood urea, would possibly have shed light on the reason why some with ptosed kidneys require "sixteen" hours rest to eliminate the excess waste produced by eight hours' activity." One has only to borrow a little of the author's faith to ascribe the good effects of nephropexying these cases to decapsulation!

We are not told in his few statistics what proportion of cases were among those with aberrant vessels, with rotated kidneys, or with merely ptosed kidneys, or if the degree of ptosis was significant. The percentage of cures among the sexes would interest the psychiatist.

We give wholehearted support to his technique which, there seems no doubt, is able to produce 100 per cent. surgical success, but when we allow for all our prejudices we cannot believe on the evidence quoted that it is as successful an operation for the treatment of the general ill-health of the patient as it is for local conditions such as rotated kidneys and aberrant vessels.

Whoever reads the book will realise the author has not said the last word on the subject.

On Prescribing Physical Treatment. By M. B. RAY, D.S.O., M.B.(Edin.). Published by HEINEMANN, Ltd, *Price* 10*s* 6*d*.

ONE has only to look from Hunt's House over the Park, and see the impressive Light and Massage Department, to realise that physical therapy forms a considerable part of treatment. The author has attempted to give the prescriber some ideas as to the rationale and indications for this form of treatment.

The first part of the book which deals fully with the various "bath" methods reveals a first-hand knowledge of the treatment. Although it is rather monotonous reading, there is a full account of the treatment obtained at various Spas as well as the substitutes that may be used when the original is not available. This seems a section of treatment of which we at Guy's often seem very ignorant, and it is the first half of the book which will appeal most.

Massage is dismissed with a scanty eight pages. Obviously, the subject does not interest the author. This is followed by electrical treatment.

Far too much space is devoted to tedious first M.B. physics, but among this are good descriptions of ionisation and its applications, and of diathermy, although no mention is made of the latter's application to surgery.

The book concludes with a good description of ultra-violet irradiation and the various means of applying it.

The second half is far too technical, which is what the author wished to avoid if possible, and only here and there are descriptions worthy of the general practitioner's time. It is most unfortunate that a mediocre second half should follow such a useful and comprehensive first, and so rob the book of the virtue of general usefulness.

Some Principles of Minor Surgery. By ZACHARY COPE, M.S., M.D., F.R.C.S. Published by Humphrey Milford at the Oxford University Press. *Price* 10*s*. 6*d*.

THIS little book raises many interesting points in connection with the principles of surgery, both major and minor.

It provides chapters on such varied subjects as acute inflammation, acute abscess, sprains, ambulatory fractures, acute retention, and the mode of action of antiseptics. All these are well arranged in a methodical manner and give ample food for thought. Those on sprains and fractures are probably of the most practical use.

In addition, a complete chapter is devoted to the important subject of infections of the hand. This section is especially illuminating concerning the importance of the thenar and middle palmar spaces; the necessity for active after-treatment; and the author's recommendation of the routine use of a tourniquet when incising a septic hand.

In describing some minor operations, the difficulties which may be encountered in extracting needles from the body are rightly emphasised, but the view that no small tumour of the breast should be enucleated will not receive universal support.

The illustrations are generally good, but the super-imposed pictures of the hand are disappointing. The palmar spaces obscure the outline of the tendon sheaths in Figures 17 to 19; whilst, in Figure 20, the dorsal interossei of the medial two spaces have been placed nearer the palm than the corresponding volar interossei.

Apart from this error in Figure 20 and two slips in the text, the book is very well produced, being well printed on good paper, and should prove interesting, as well as instructive, to both the senior student and the qualified man, although it is primarily intended for the latter.

Handbook of Surgical Diagnosis. By CLEMENT E. SHATTOCK, M.D., M.S.Lond., F.R.C.S. Published by Messrs. E. & S. Livingstone, Edinburgh. *Price* 15*s.*

ON taking up this book, we anticipated to find good reading; when we had finished, we found our expectations had been fully realised. In its pages, 700 odd, are set forth a description of the many surgical conditions, major and minor, which one may meet; often a brief description of the morbid anatomy is included, and everywhere a full and succinct discourse on the differential diagnosis follows.

Throughout the book a splendid balance has been preserved in the author's successful endeavour to keep it to the size of a handbook; the eminently clear and interesting manner in which it is written is beyond compare. The 78 X-ray illustrations are a valuable inclusion since skiagrams now form such an important aid to diagnosis. As the title indicates, treatment is nowhere mentioned. We whole-heartedly recommend this book; from it almost all that is essential in differential diagnosis, that can be put into print, is quickly and easily to be learnt; it should prove exceedingly useful to men when starting in the wards, when working for final examinations and later in practice.

The Heart. By TH. DALMALLY., M.D Quain's Anatomy, Qol. IV, Part III. 152 pp., 84 Illustrations. Published by Longmans, Green & Co., Ltd. *Price* 16*s.*

QUAIN'S Anatomy needs no introduction, and its popularity and value are well shown in that an 11th edition is in the process of being completed. This book forms a part of the 4th volume of the edition (the first volume was actually published before the war) and is devoted entirely to a study of the heart.

The development of the heart is only lightly touched upon, as that feature was dealt with in the earlier volume on embryology, but every other anatomical aspect of the heart is described with great detail and exactitude. Almost everything that one may wish to know about the organ is contained in this volume, and as a reference book on the subject it can have no equal.

Its appeal to the general student will, of course, be very small on account of its specialised nature; but it is wellworth reading for higher examinations, and those interested in the clinical and pathological study of the heart will find it contains much of interest and value. This is particularly so with regard to the descriptions of the conducting mechanism of the heart. Very full and careful details are given for the exposure and dissection of the sinu-auricular node and the bundle of His; information which is omitted from most books.

Abundant reference is made to Campbell's work on the distribution of the coronary vessels, and in particular the X-ray examination of the injected heart is described.

The much vexed question of the vascularity of the heart valves is fully dealt with and many references to the literature are given.

Indeed, one of the features of the whole book is the abundant reference to other writers; and full and very useful bibliography is given at the end of the subject-matter.

R. C. B.

Correspondence

Presentation of Florence Nightingale Medal

To the Editor of the GAZETTE

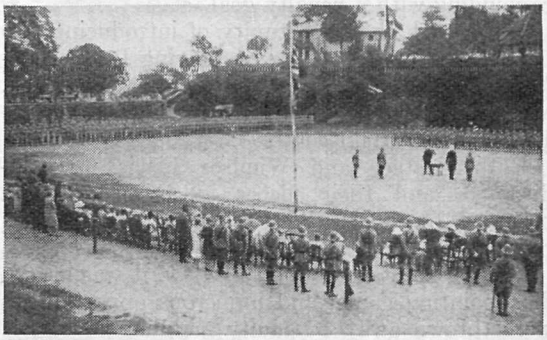
SIR,—A very attractive little ceremony took place here on Sunday, the 8th of September, and one which accorded much honour to the Nursing world through the very charming personality of Miss Melanie Elaine Tippetts, R.R.C. The occasion was the presentation to her of the Florence Nightingale Medal by Sir Malcolm Hailey, the Governor of the United Provinces, India, who came across the hills from Naini Tal, a distance of 50 miles or so, to present the medal, for the Royal Red Cross, which committee as you all know instituted the medal.

The setting was glorious, a hollowed out parade ground surrounded on three sides by hills, the fourth looking out to the "everlasting snows." The day was perfect, though odd clouds passing over spoilt some of our best efforts at photography. But to get on with the narrative. The ceremony was prefaced at 11.0 a.m. by a short service at the Church of England, which is situated just above the parade ground. All our local celebrities and troops attended this, as also did the Governor and Lady Haily, and a few senior officials such as the General Officer Commanding Eastern Command, and the Deputy-Director of Medical Services Eastern Command. More troops came from the suburbs of Dulikhet (4 miles away) on the one side, and Chaubattia (7 miles away) on

the other side, and were paraded by 11.45 a.m. ready for the presentation at 12.0 noon. They were joined by those who were at Church, and paraded on three sides of a hollow square, the

spectators, who also lined the hills all round, forming the fourth. The ceremony took place in the middle of the square, and we were all able to hear every word of the Governor's speech, which was as follows :—

" It is a very great pleasure to me to be able to present this Medal to Miss Tippetts to-day, for it is in itself a somewhat rare and exceptional distinction. The Red Cross is a vast international organisation ; and in judging the merits of those to whom it presents the Florence Nightingale Medal, it has to consider the claims of a large number of competing countries. This year 27 medals were awarded and with the exception of France, which received three, no country has received more than two awards. In the case of India one medal has been awarded to Miss Tippetts and one to Senior Nursing Sister Miss Beresford, at present in Rangoon. It is nine years since a similar honour fell to India, when Nursing Sister Miss Lucy Minchin received the award in 1920. I am sure that no one who knows Miss Tippetts' career can doubt that this honour has been well earned ; she has been a member of Queen Alexandra's Imperial Military Nursing Service since 1907 ; she served in France with Force D in 1914–1915 ; in Mesopotamia in 1916 and the North-West Frontier in 1919–1920. She became an Associate of the Royal Red Cross in February, 1917, and of the Royal Red Cross 1st Class in March, 1920 ; since 1925 she has held the post of Principal Matron in Queen Alexandra's Imperial Military Nursing Service. But there is more than



this ; there is no one who will not feel pleasure that in congratulating Miss Tippetts we have an opportunity of rendering at the same time our tribute to a great service, which has, both in peace and war, been of such inestimable value to our soldiers and the members of which have always shown a spirit of self-sacrifice and devotion to duty which commands alike our gratitude and respect."

After the ceremony, Miss Tippetts was the guest of honour at a luncheon party given by our local General for her and the Governor.

Miss Tippetts, R.R.C., trained at Guy's Hospital, and is very proud to be bracketted with her old Matron. Dame Sarah Swift, R.R.C., C.B.E., both having been honoured by the presentation of the Florence Nightingale Medal this year. (Incidentally, Guy's Hospital has managed to carry off two of the four given to English women).

I enclose a few snaps of the ceremony ; unfortunately we could not make the Indian mind grasp the possibility of a woman being the centre of attraction, hence I have been unable to get a good close-up view of the ceremony. The Photographer took a good many " close-ups " of the Governor and Generals, but those do not interest us so much, and we being more or less on parade, were unable to make full use of our cameras.

Faithfully yours,

A. M. H. (an old Guyite).

Ranikhet, U.P.,
India.

Sport

Rugby

Guy's v. Catford Bridge

ON Saturday, September 21st, Guy's opened their season with a match against their old neighbours Catford Bridge. After a somewhat scrambling game, the result ended in a draw, Guy's obtaining an unconverted try and Catford responding with a penalty goal.

Guy's took the opportunity of introducing two new freshmen to the side by playing L. A. Hale-Monro, late of the Royal Air Force, at full-back, and H. J. B. Atkins, who last season assisted the Harlequins at right-centre.

Both Eustace and Windsor Lewis were indisposed, and their places at half-back were occupied by A. M. Weston and I. K. Thomas respectively.

From a spectator's point of view, it was a very disappointing game, and numerous opportunities were thrown away by faulty handling or erratic passing.

No doubt the hard state of the ground made both sides very cautious with their tackling which, at times, was very weak and far too high.

Guy's opened very strongly and compelled Catford to defend their line in the first few minutes, and in the excitement of keeping their line intact the visitors were penalised just outside their 25. However, Hogbin's kick was just short and Catford were able to find touch. Their forwards carried play to our half, and Hale-Monro came to the rescue with a fine kick to midfield. Following some excellent work by our pack, Atkins eventually found touch in the corner, but Catford retaliated with a fine passing bout between all their backs which was only checked by Robinson who had crossed over from the other wing.

A fine movement between Thomas, Kunovsky and Hogbin, carried play to the visitors 25, and from a scrum that followed Robinson was brought down on the line. Just before half-time Thomas tried to drop a goal and Catford were kept on the defensive until the whistle sounded for the breather.

Following the interval, Catford set up a hot attack and Atkins was forced to touch down. A good round of passing between Thomas, Atkins and Robinson followed, and Hogbin, receiving the final pass, actually crossed the line, but the pass was deemed to be forward and a scrum resulted. However, success came to the Hospital a few moments later when A. J. D. Lewis made a fine dodging run and sent Atkins in for an unconverted try.

Stung by this reverse, Catford pressed heavily and Guy's had as much as they could do to keep their line intact. The visitors were eventually awarded a penalty in our 25 and so equalised the scores.

Hogbin was next conspicuous in a solo dribble to Catford's territory; their full-back made a great save and eventually found touch with a fine kick.

Towards the end Thomas missed an opportunity to give Guy's the lead, when he dropped the ball with the line at his mercy.

In the closing stages, Guy's began to tire, and they were rather fortunate in preventing Catford from snatching a victory.

Guy's Team—T. A. Hale-Monro; T. G. Robinson (capt.), H. J. B. Atkins, S. R. Peatfield, A. J. D. Lewis; I. K. Thomas, A. M. Weston; J. R. F. Popplewell, R. A. P. Hogbin, T. Morgan, D. S. Clogg, G. F. Lashmore, J. S. Batchelor, J. Kunovsky, J. A. T. Rowlett.

Guy's v. Coventry

ON Saturday, September 28th, Guy's visited Coventry and were defeated by three goals and two tries (21 points) to a goal and two tries (11 points).

Guy's were distinctly unfortunate to lose by such a margin of points, as at one time it appeared as though a victory would be recorded. However, the home side made a very strong finish and registered eight points in the final minutes of the game.

It was a ding-dong struggle and the hospital pack played a particularly fine game throughout. They more than held their own in the tight-scrums and heeled the ball very smartly. However, at half-back the home side held a distinct advantage, and four of their tries came from the excellent combination of Gascoigne and Lole.

At half-time Coventry led by two goals to a goal, Lole obtaining both tries for Coventry as the result of passes from Gascoigne, and Malin converted.

Atkins obtained the Hospital's try after a very fine run, and Hogbin added the goal points from an easy position.

Gascoigne added an unconverted try for Coventry immediately after the interval, and then the Hospital retaliated with fierce attacks which resulted in Atkins and Clogg crossing the line for tries which were not improved upon.

Exciting play followed, and eventually the Coventry forwards made a great dash to our goal

line and Coulson crossed for a try which Malin failed to convert.

In the last minute of the game, the Coventry forwards led a mass attack and Gascoigne sent Lole over for a try which Malin improved.

Before the interval Guy's lost the services of Popplewell with a damaged hand and Coventry's wing three-quarter Lee retired with an injured knee.

Guy's Team—T. A. Hale-Monro ; T. G. Robinson, T. Fichardt, H. J. B. Atkins, A. J. D. Lewis ; I. K. Thomas, W. D. G. Jones ; J. R. F. Popplewell, R. A. P. Hogbin, T. Morgan, J. S. Batchelor, A. R. Clarke, D. S. Clogg, J. Kunovsky, G. F. Lashmore.

Guy's v. United Services (Portsmouth)

FOR their home match against Guy's on Saturday, October 5th, the Services fielded a very strong side, whereas Guy's were without the help of Popplewell and Atkins, and had to admit defeat to a superior side by three goals and two tries (21 points) to a try (3 points).

A gale raged throughout the game, but in spite of this, the spectators were treated to a really hard game.

The Services pack was in excellent form and continually employed the wheeling movement in the scrums, much to the discomfort of Guy's.

Their halves were very nippy and smart in getting the ball and gave their backs numerous opportunities of opening up the game.

Guy's had a good opportunity to score in the first few minutes, but the final pass to Robinson went astray. After the Services had repelled a forward attack, their three's took part in a fine passing movement which nearly resulted in a try, but Ford was tackled on the line and Guy's found touch.

Following a scrum in our 25, Ford scored a good try which Browne converted.

In the next minute the Services had to defend when our forwards, in which Hogbin was prominent led a dribble to their goal line.

Success eventually came to the Hospital when the ball was smartly heeled from a scrum and sent to Robinson, who, by virtue of his extra speed, rounded two opponents and crossed for an unconverted try near the corner flag.

Roused by this reverse, the Services swept down the field, and after a scrummage on our goal line, Forrest crossed for Browne to add the extra points.

In the second half, Guy's had to face the sun and wind, and in consequence, their play suffered accordingly.

The Services gradually assumed the upper hand, and before the final whistle they added another goal and two tries to their half-time score.

Guy's Team—T. A. Hale-Monro ; T. G. Robinson, T. Fichardt, S. R. Peatfield, A. J. D. Lewis ; I. K. Thomas, W. D. G. Jones ; C. D. Malone, R. A. P. Hogbin, A. R. Clarke, D. S. Clogg, G. F. Batchelor, J. Kunovsky, G. F. Lashmore, G. W. Hall-Smith

Hockey

Guy's v. R.N.C. Greenwich

LAST Saturday the First XI visited the Royal Naval College at Shooter's Hill. An extremely well-contested game ended in a draw (1—1), one goal each.

At first, the R.N.C. attacked strongly, and for 15 minutes or so, the play was mostly in our half. Largely owing to the brilliance of Schofield in goal they were unable to score. For the remainder of this half Guy's did the bulk of the attacking, but also failed to score.

Early in the second half Payne scored for Guy's following a well-concerted breakaway. The R.N.C. now pressed still more and were often dangerous. Towards the end their only goal came through a peculiar stroke of fortune—Schofield in clearing kicked the ball on to the chest of the R.N.C. centre forward, and the ball rebounded past Schofield into goal. After this, no further scoring occurred.

The game was played at a fast pace, and was a ding-dong struggle throughout. Great improvement was shown by the Guy's side, who played as a team for the first time this season, and the ball was freely hit about in a refreshing manner. From a side in which all played well, J. B. Schofield in goal, G. N. Carrell at left back, R. A. Sykes at centre-half and H. O. Lyne at inside-left, deserve singling out for especial reference.

The Hospital was represented by the following : J. B. Schofield, G. N. Carrell, E. T. Conybeare, T. F. Todd, R. A. Sykes, T. E. Mitchell, R. O. F. Tilleke, H. O. Lyne (Captain), R. V. Payne, C. J. Hartley and C. A. Clarke.

Fencing

ON Saturday, October 5th, the Fencing Club opened the season with a brilliant win against the R.M.A., Woolwich ; the final score being R.M.A., 18 defeats : Guy's, 7 defeats.

Owing to examinations H. N. Garrus, P. A. Gorer and E. H. Rink, who are regular members of the team, could not turn out for the Hospital, which makes the victory all the more creditable.

In the Foil, A. W. Holman gave a particularly good account of himself, and showed a variety of parries and attacks. N. Richardson was also at his best and was unlucky not to win more than he

did. P. Norris appeared to be nervous, but with more practice should do well. E. L. Monkhouse won all his fights, but somehow was not convincing at any time.

In the Sabre event, S. W. Wright and D. H. Irish, who have never before fought in a match, showed wonderful knowledge of the weapon, and are to be congratulated on winning half their fights against a team who specialise in this weapon. Monkhouse again won all his fights, but narrowly escaped defeat on two occasions through being careless.

Sailing

Ogilvie Cup Race

THE race for the Cup presented by Mrs. Ogilvie for single-handed dinghy sailing, was held on Sunday, September 29th, at Burnham-on-Crouch.

The course was a triangular one to be sailed four times. There was a very strong wind blowing from the south-east, and the tide was ebbing, so that the race promised to be both exciting and difficult.

There were five starters including Mr. Ogilvie. All sailed with reefed coursing sails owing to the heavy weather. The start took place at 11 a.m. off the Royal Corinthian Yacht Club. Mr. Ogilvie was first over the line, followed by Bradbeer, Bunyen and Donald, all in the first half minute. C. G. Palmer was late over, owing to running ashore before the start.

After the first mark was rounded, Mr. Ogilvie shipped some water and had to run ashore and bail out. Bradbeer lost ground through attempting to come back through the slack water on the Burnham shore and so Bunyan established a long lead.

After the first round. C. G. Palmer capsized and was rescued by a motor-boat. All the boats were shipping large quantities of water, and there were some frenzied bouts of bailing on the run downstream with the wind.

Donald's boat became so water-logged, that he had to retire during the third round.

Bunyan finished an easy first, with Bradbeer and Mr. Ogilvie second and third.

Hospital Information, etc.

The Mediguildances

THE series of these dances proved so successful in the summer that the Royal Medical Benevolent Fund Guild has arranged to continue them on exactly the same lines except that the "Onslow Orpheans" are providing the music which will greatly add to the enjoyment of the evenings.

They are held in the Great Hall, British Medical Association, 19, Tavistock Square, 8.30 till 12.30, and there is also a Bridge room.

St. George's have undertaken to organise the dance on Thursday, October 31st, The Royal Free on November 14th, and St. Mary's on December 12th. Tickets, 6s. single and 11s. double, may be had for each dance from Mr. H. Winston, Medical School Office, Guy's Hospital.

Mr. Viola, of Albemarle Street, is repeating his most generous offer of a Bridge Coat as a prize for a hidden number, in addition to his gift of an 18 guinea dress and a 6 guinea hat. Receipts at 2s. each for participation in these splendid gifts at each dance are on sale during the evening.

Change of Address

F. W. Sander, 129, Northbrook Road, Ilford, Essex.

W. R. Spurrell, M.S., Department of Experimental Pathology, Leeds University, and "Applegarth," Boston Spa, Yorks.

Papers by Guy's Men

C. S. Hallpike, M.B., M.R.C.P. Some Observations on Bone Conduction. (Paper read at the Cambridge Meeting of the Otological Section, Royal Society of Medicine, June, 1929.)

E. P. Poulton, F.R.C.P., W. R. Spurrell, M.S., and E. C. Warner, M.B., B.S. A convenient form of closed-circuit respiratory apparatus for measuring simultaneously the carbon dioxide output and the oxygen intake over short or long periods, *Jour. Phys.*, 1929, lxvii, 423.

H. W. Barber, F.R.C.P. Lettsomian Lectures on Relationship of Dermatology to other Branches of Medicine, Lecture II, *Lancet*, 1929, ii, 483.

A. A. Osman, M.R.C.P. The Differential Diagnosis of Recurrent Appendicitis and Bilious Attacks in Children, *Clin. Jour.*, 1929, lviii, 428.

G. F. Gibberd, F.R.C.S. A Contribution to the Study of the Maternal Death-rate, *Lancet*, 1929, ii, 535.

H. W. Barber, F.R.C.P. Lettsomian Lectures on The Relationship of Dermatology to other Branches of Medicine. Lecture III (Illus.). *Lancet*, 1929, ii, 591.

F. N. Doubleday, L.D.S., M.R.C.S., L.R.C.P. Local Analgesia in Dental Practice; Pharmacology, *Brit. Dent. Jour.*, 1929, l, 1062.

C. Worster-Drought, M.R.C.P., and another. Harmine in the Treatment of Chronic Epidemic Encephalitis, *Lancet*, 1929, ii, 647.

Birth

DODD—On September 25th, 1929, to Kathleen Norah (née Giller) wife of E. F. S. Dodd, L.D.S., R.C.S. Eng.—a daughter.

Marriage

DOWELL—DOMMEN.—On 17th September, 1929, at Derby, William Henry Dowell, M.R.C.S., L.R.C.P., eldest son of Mr. and Mrs. Henry Dowell, of Saddington, Leicestershire, to Henriette, daughter of Mr. and Mrs. Edward Dommen, of Hatton, Derbyshire.

EDS. { E. T. C. J. B. B.

GUY'S HOSPITAL GAZETTE

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PASSIM

THE changes in the constitution of the University of London, brought about by the Act of Parliament that came into force early this year, would seem likely to have far-reaching effects where Guy's is concerned. The policy, pursued up to the present, of refusing to seek financial assistance for the Medical School of this Hospital from public funds until the University itself should be in a position to offer that assistance has, in our opinion, more than justified itself. Entirely self supporting, the School here has, so far, more than kept its place in competition with other organisations receiving a considerable measure of State support, a fact brought to public notice by the Adami Report of 1924, and an achievement upon which the School and Governor's Committees responsible during the past 20 years deserve the heartiest congratulation.

The newly created Court of the University of London would appear to form a much more substantial academic buffer between the various schools within the University fold and the State, as represented by the Treasury Grants Committee than has hitherto existed. We hear that in the near future the establishment of closer relations with the reorganised administrative departments of the University is likely to lead to the Guy's School receiving that measure of support and encouragement from public funds which the standard of its work undoubtedly deserves, and which it has only denied itself in the past for the sake of a perfectly understandable tradition of absolute and complete freedom.

While, perhaps, we may be permitted a few sentimental regrets at the seemingly inevitable invitation of State assistance for the continuation of work which has, so far, flourished in an altogether admirable independence, we believe that the Guy's School will gain no further vigour nor the University any further benefit of inspiring example by a continued divorce of interests, either financial or otherwise.

THE grouping of diners at separate tables according to their year or inclination, is one of the happiest features of the Biennial Festival and together with a rigid prohibition of lengthy speeches, goes to make the occasion thoroughly enjoyable to everyone concerned.

We find it difficult to imagine a more successful evening that that provided by the 1929 Festival, held at the Connaught Rooms on Friday, October 18th, with Sir Maurice Craig, C.B.E., M.A., M.D., in the Chair. From the first moments in the reception hall where an enormous crowd seemed to be indulging in an equally enormous aperitif, through the more broken conversation of the dinner itself to the easier confidences of the later stages, a flood of reminiscence and reunion appeared to envelop the entire company, ebbing away only during the brief toasts of Hospital and Chairman and for the enthusiastic vote of thanks to the Hon. Secretary, Mr. E. C. Hughes, whose sure hand in the immense amount of work necessary for the smooth progress of the arrangements was, in spite of his own modest disclaimer, both evident to and and very much appreciated by all those present.

WE would remind readers that Mr. R. P. Rowlands is to give the Bradshaw Lecture at the Royal College of Surgeons on November 14th next, at 5 p.m. This should be an excellent opportunity for students to combine a visit to the College with attendance at an address which has now been delivered by a member of the Guy's surgical staff for two years running.

WE learn that a few tickets are still available for the Wednesday and Saturday performances of *H.M.S. Pinafore* next week. Application should be made without delay, either to Mr. G. G. Ellis or to Mr. Winston, the Wills Librarian.

Once again you are asked to "Help Yourself"; each year more people act upon slogan. The possibilities that are brought within reach by the expenditure of half-a-crown in exchange for the Help Yourself! Annual, 1929, are innumerable; you may win one of seven Austin cars or a fish and chip supper for two, every Saturaday night for a year. In any case, your half-crown is not lost, for by this means, the Stock Exchange Dramatic and Operatic Society each year raise a large sum of money for distribution among the hospitals. The Annual may be obtained from the Medical School Office or the Counting House, not later than Friday, November 29th.

Our friends, the Works Department, in addition to their activities in Newcomen Street, have launched two simultaneous attacks with brush and distemper, both to noble purpose. The first was staged in the front surgery, with the result that walls and ceiling have now returned to their pristine freshness of complexion. The second, revolutionary in purpose, is still in progress; the walls of the squash court, in the past a nondescript grey, for the future will be white. No longer are eyes to strain in picking out a small rapidly-moving object, black in colour, against a background of similar hue, a difficulty too great for some of us when playing by artificial light in the thickness of a November evening. Gone will be that fine speculative stroke at the spot where instinct says the ball should be if one's opponent placed it where he appeared to intend; no pleasure can equal that derived from this stroke when successful, but as ever, one cannot both eat one's cake and have it.

The following appointments have been made by the House-Committee:—

House-Physicians—
To Dr. Hurst—Mr. R. Glanvill.
To Dr. Mutch—Mr. F. E. Camps.

House-Surgeons—
To Mr. Steward—Mr. J. B. Blaikley.
To Mr. Rowlands—Mr. N. E. Pitt.

Obstetric Residents—
To Mr. Chapple—Mr. D. B. Smallshaw.
To Messrs. McNair and Cook—Mr. L. K. Wills.

Out-patient Officers—
Mr. W. L. M. Bigby.
Mr. S. M. Cohen.
Mr. R. J. L. O'Donoghue.
Mr. S. A. Scorer.

Assistant House-Surgeons—
To Mr. Hughes—Mr. C. F. Cosin.
To Mr. Davies-Colley—Mr. P. M. F. Bishop.
To Mr. Bromley—Mr. R. Bruce-Pearson.
To Mr. Slesinger—Mr. H. G. McGregor.
To Mr. Ogilvie—Mr. S. J. Wheeler.

House-Physician in the Department for Diseases of Children—
Mr. H. Richards.

House-Physician in the Dermatological and Neurological Departments—
Mr. S. Shone.

Recent Developments in the Treatment of Malignant Disease

A Clinical Lecture by Dr. C. E. Iredell, M.D.

One of the most interesting changes which has occurred during the last 20 years, is the attitude of the medical profession towards malignant disease. I can remember two well-known medical men at different times independently expressing the opinion that, not only was there no cure for malignant disease, but that one would never be found. These opinions, publicly expressed, were treated with acquiescence. This shows quite clearly that they represented the view of the medical profession generally. To-day, we find a totally different attitude, and, if one judges from the Daily Press which must ultimately derive its ideas from the medical profession, we are led to assume that the cure for cancer is within measurable distance. Nevertheless, reference to the Registrar General's reports shows that the mortality from malignant disease is as great as it ever was, and it is by no means easy to say exactly to what cause this change of attitude to the problem of the cure of cancer may be attributed.

Another interesting fact is that the general public has for the last 25 years been under the impression that a large number of medical men have been investigating the cause and cure of malignant disease. It may, therefore, be worth while to remember that 23 years ago, when I first started in the Light Department, no case of cancer was being treated there and that the only treatment for malignant disease in the hospital then was surgical. What was true of Guy's at that time, was probably true of every other hospital in London. Some years later, it is true, a Douglas Research Fellow was appointed to carry out investigations, and that, during his term of office, which lasted about six years, he, together with myself, investigated the treatment of malignant disease by means other than those purely surgical. Before this, however, the Cancer Research Committee was initiated and probably three or four men were engaged in research.

It is only since the War that any real effort has been made to grapple with the problem, and, though the number of investigators has increased, nevertheless they are still far fewer than is generally thought to be the case. When the question is viewed from the standpoint of the Registrar General's returns it is by no means surprising that no practical, *i.e.*, statistical advance, has been made during the last 25 years. You may say "How about the individual cases in which improvement which is beyond question has been obtained?" To this there are two answers, (*a*) that many of the cases live a few years longer than they would otherwise have done, but that death from malignant disease has merely been deferred, and (*b*) that the number of cases in which a continued prolongation of life has occurred is at present too few to make any material difference to the Registrar General's reports.

The earliest cases treated in the Light Department in my time were carcinoma mammæ in which after operation, recurrences had occurred in the axilla, chest wall and sternum. These cases improved not only as regards the size of the growths, but also as far as the pain and other symptoms associated with them were concerned, and it was after I had given a clinical lecture, which was published in the *Gazette*, describing the improvement in the methods of treatment in this disease, that the President of the Electro-Therapeutic Society said at one of their meetings that nobody wanted any nonsense on the subject of X-rays being of any use in the treatment of cancer. I mention this to show that very little X-ray treatment was given then for malignant disease compared with the present time when so many inoperable growths are treated with X-rays and radium.

When you see an X-ray treatment carried out to-day in which the turning on of one or two switches produces a stream of X-rays which is as regular and as easily controlled as a stream of water is controlled by a tap, you can have no idea of the difficulties which attended X-ray treatments 20 years ago when it was no uncommon thing to spend a morning almost entirely in trying to get an X-ray tube to work for a treatment which might last only a few minutes. This, of course, added enormously to the difficulties of obtaining any satisfactory clinical results.

It was at this time the practice in the Light Department to give, as far as possible, a fair trial to any form of treatment for malignant disease which was suggested. It was soon found, however, that so many forms were proposed that it was impossible to try them all and only the more promising ones were tested. Of these X-rays, radium, colloidal copper, selenium and other metals and Coley's fluid were found to be the most suitable. Among the other methods tried were A.M.S. and diathermy given medically, but these were soon given up. There was, however, very little interest in these forms of treatment as far as the medical profession was concerned, and it was not until 1908 that a new method of treatment by means of radium was initiated in Paris. This consisted in using what were then considered large quantities of radium in a particular way.

It must be remembered that radium gives off α, β and γ rays. Of these the α rays are stopped by a few pieces of paper. The β rays are more penetrating, so much that they will even pierce a thin sheet of metal. The γ rays, which will penetrate several thick masses of metal, only form, however, 3 per cent. of the total number of rays emitted by the radium. Part of the theory of this new treatment was that malignant cells were peculiarly susceptible to the γ rays, and, in order to produce a sufficient quantity to destroy malignant cells, a large amount of radium had to be used. As the α and β rays had the effect of producing burns they had to be cut off by means of metal. It was then found that this precaution was not sufficient as the γ rays, when passing through metal, produced what was then known as Soignac rays, but which are now known as secondary radiation. This secondary radiation produced definite inflammatory effects which were supposed to act as an irritant to growths, and, therefore, they had to be cut off by means of g.p.t. and lint.

In 1910, an article appeared in the *Lancet* by Sir Frederick Treeves, in which he described a series of cases of inoperable malignant disease treated in Paris with radium in which apparent cures had been produced. The results were so marked that the general opinion of the medical profession seems to have been that Treeves had made a mistake, and he was at once asked if the diagnosis had been confirmed by microscopical section. He admitted that, as far as he knew, this was not the case. It is, therefore, of some interest to know that I had been over to Paris on two occasions at an interval of six weeks not long before Sir Frederick Treeves' visit and I had made it my business to see if the diagnosis had been confirmed. I found that, without exception, it had been so and it is from this time that the use of radium has been known in London.

It was only a short time before this article was published that Guy's had acquired 22½ mg. of radium. In the cases described by Sir Frederick Treeves the amount of radium used was not more than 10 mg. To-day this is, of course, looked on

as a small amount, but it is worthy of notice that I have never seen cases which appeared to me more striking or more conclusive of the effect of radium in malignant disease than these original cases described by Sir Frederick.

In the following year, the late Dr. James Douglas, who was interested in the use of radium for cancer, came over from America with a medical friend. As Guy's was the only hospital to possess radium in bulk he came to see the work that was being carried on there. It happened that there was a patient of the hospital who had had a complete removal of a growth of the stomach by Mr. Dunn when I was his house surgeon, and that, at the time of Dr. Douglas' visit, this patient had been re-admitted to the hospital suffering from an abdominal tumour, pain and vomiting. He had been treated with 22½ mg. of radium and his pain and vomiting had stopped and the lump was imperceptible on palpation. Dr. Douglas and his friend were so much impressed by this case that, after paying a visit to Paris where they saw nothing so striking, Dr. Douglas determined to make Guy's the field of his energies and you can see from the Board of Benefactors what he did for the hospital. Unfortunately, circumstances prevented him from carrying out his original plans at Guy's, although later he pursued them in New York, and three volumes of reports of the work carried out in research on malignant disease in the Cancer Memorial Hospital there are the result. These reports, whether judged from the standpoint of the number of cases treated and the quantities of radium used together with the fulness and accuracy of the scientific studies on various allied subjects, are the best I have ever seen in the last 15 years. The Cancer Memorial Hospital possessed nearly three grammes of radium and their supply has been increased at the rate of one gramme in every 10 months.

The effect of applying radium through a piece of metal was so striking in preventing a burn and in producing a painless disappearance of the tumour, that it seemed to me worth while to try the application of X-rays to a patient through a sheet of lead. It is always wise to consider radium as an X-ray plant which is continually giving off X-rays day and night without intermission and without any change in the character of the ray given off. Indeed, an X-ray is simply a very much less penetrating form of the γ ray of radium. I, therefore, asked my two radiological colleagues what they thought would be the effect of X-raying a patient for an hour through a sheet of lead. Just how extraordinary the idea appeared at that time may be gathered from their replies; one thought the patient would receive a bad X-ray burn while the other thought nothing would happen. As a matter of fact, the results were most particularly satisfactory as the danger of an X-ray burn was eliminated and the effect on the growth was far better than that of X-rays given in the ordinary way, and this method, which was started in 1910, has been in constant use ever since, and, as far as I can say, it ante-dated the deep X-ray therapy at Erlangen which is exactly the same in principle.

It is often supposed that the deep X-ray therapy introduced new principles in X-ray treatment. The only new idea involved was X-raying through a piece of metal in order to cut off the more burning rays and utilising those more penetrating and more destructive to abnormal tissues. As far as the X-ray machinery was concerned, it differed only from that which preceded it in the efficiency due to scientific progress.

Radium has one very definite advantage over X-rays which cannot be disputed, and that is that it can be inserted in the body without trouble as, for instance, in growth of the rectum. Quite apart from this, another factor, which is sometimes disputed, is that radium rays, probably owing to their more penetrating nature, have more effect on malignant disease than X-rays, and lastly, there is what may be described as the constitutional effect. Small doses of X-rays and radium produce no constitutional effects, but in large doses these become very definite, and the patient becomes languid, apathetic and tired, and, in severe cases, symptoms may be so acute as to necessitate confinement to bed for several days. The constitutional effects of radium are definitely less than those of X-rays, and, in my opinion, sufficient importance has not been attached to this subject. It is possible to give a very large application of radium or X-rays and to get rid of the growth, while at the same time producing severe constitutional disturbance. It has always been my view that such disturbance is dangerous and I believe, if statistics could be obtained, it would be found recurrences were earlier in cases where constitutional disturbance was marked than in those where it was practically absent.

It is generally assumed that to get rid of a tumour and to prolong life are one and the same problem, but they should be considered as separate and distinct with the proviso that the second is the more important. As an instance of this, I may quote one of the first cases which was ever treated with X-rays in the Light Department. She was a woman who had so-called carcinoma mammæ, which Sir Arbuthnot Lane removed as far as possible with the idea that it should be dealt with by means of X-rays. This patient was alive

12 years after the operation, and it must be remembered that, in common with all cases at that time, the woman was given only small doses of X-rays repeated at short intervals.

This case shows that satisfactory results can be obtained without powerful apparatus and big doses. On the other hand, that cures are not always effected by large doses is shown by the following case. A woman with cancer of the uterus was treated with a tube containing 50 mg. of radium. The ordinary length of application was 24 hours, but, in her case, the radium was left in for seven days. The patient's temperature went up to 106°, and a violent pelvic inflammation ensued. It was thought that the patient would die, but ultimately she recovered and the growth disappeared. Six months later, a recurrence appeared in the ileum which ultimately caused her death.

At the present time the use of radium needles for use surgically is being widely discussed. Indeed, all the radium allocated to Guy's under the Chartered Institute which controls the radium in this country is being put up in this form. I have already referred to the secondary radiation when radium passes through metal, and have said that the modern use of radium demanded as a *sine qua non* that means should be taken to abolish their bad effects. One clinical instance that can be given is that of growth of the œsophagus. You will remember that the secondary deposits in this disease are late, and that this might, therefore, be looked on as a favourable site for radium treatment as a tube of radium can be applied directly to the growth. As, however, the œsophagus is always constricted in this disease, it is impossible to cut off secondary radiation by means of lint and g.p.t., the metal of the tube being, therefore, in direct contact with the growth. An inflammatory reaction invariably results, producing effects on the patient which are so serious that this form of treatment has now been completely given up. It is clear that in the use of radium needles secondary radiation cannot be prevented, and one would expect that, even if the immediate results were satisfactory, recurrences would follow more quickly than would be the case if no secondary rays had been produced. It is interesting to note that radium needles are not new. In the *British Medical Journal* of 1914, you will find an article on their use by Robinson and Joly.

There are a few other points connected with the use of radium in malignant disease which, I think, are important clinically. The surgeon who sees an operable malignant tumour can always form a fairly accurate idea as to how long the patient is likely to remain free from growth. With radium the period of freedom is not nearly as easy to calculate. This uncertainty is not dependent on dosage as might be expected. Furthermore, the effect of radium differs in different parts of the body. For instance, carcinoma of a nodule in the skin may be more difficult to get rid of than a far larger tumour in the sternum. Another point of great importance is that, while it is frequently easy to reduce a tumour to half its size, it is far more difficult, and may be impossible, to get rid of it completely. Again, if a tumour has recurred after once having been treated with radium or X-rays, it is far more difficult to get rid of it the second time. For some reason or other, malignant disease seems to get used to any form of treatment and the treatment which at one time has done good to a tumour will, later on, not only fail to do more good but actually appear to make conditions worse.

Another point which seems to me not to have had sufficient attention directed towards it is Samson Handley's work which points conclusively to the fact that in many cases one may be sure of removing every malignant cell from the body so that the patient goes cancer free like anybody else. How is it then that such a patient not infrequently gets a recurrence? In carcinoma mammæ not only the actual growth but the whole organ is removed. Apparently, therefore, the cause of recurrence lies outside the organ. This being the case, one might assume that the cause was some general condition of the body, and also one would suppose that, if the malignant disease reappeared, it would do so in any part of the body irrespective of the site of the operation. Actually the recurrence is in or adjacent to the area of operation. I have never heard of the problem of cancer being investigated from this angle.

It only remains for me to refer to the use of diathermy surgically. Probably the most satisfactory way of treating malignant disease at the present time, no matter what its situation, is by using surgical diathermy as far as possible and leaving radium to do the rest.

Notice

GUY'S HOSPITAL DENTAL SCHOOL,

London Bridge, S.E.1.

A LECTURE will be given by Dr. Boyd S. Gardner, Senior Dental Surgeon to the Mayo Clinic, Rochester, U.S.A., on Tuesday, November 5th, 1929, at 5 p.m. in the Physiological Lecture Theatre. Subject: "The Relationship between Medicine and Dentistry."

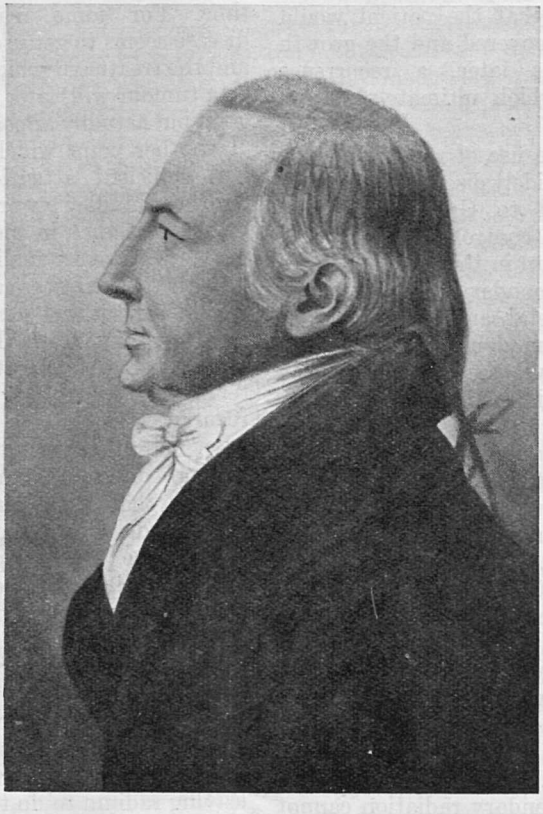
T. B. JOHNSTON, *Dean.*

William Hunt

IN *The Times* of September 30th last, appeared the following paragraph which was no doubt read with interest by many Guy's men, who, if they knew little of William Hunt, were at least well acquainted with "Hunt's House," of which the origin is here indicated.

Wednesday, September 30th, 1829.

"The Late Wm. Hunt, Esq.—The will of this eccentric old gentleman was proved on the 24th instant, and the property sworn to under 250,000*l*. The testator expresses great anxiety not to be buried alive, and also to escape the resurrection men. An advertisement, cut out of a newspaper, of patent self-closing and unopenable iron coffins, is gummed on the top of the first sheet of his will, and he directs that he is to be buried in an iron or stone coffin . . . . One legacy to a friend is afterwards revoked on account of the said friend's 'extreme bigotry and ignorance, in burning the Philosophical Dictionary of Voltaire because he could not refute it.' The principal feature of the will, however, is the magnificent bequest to Guy's Hospital, being the residue of the testator's property, after a few legacies to executors and friends, and other charities, and estimated at upwards of 200,000*l*. For this he binds the Governors to build and fit up accommodation for one hundred more patients than the original founder provided for. To St. Thomas's Hospital, the Refuge for the Destitute at Hackney, and the Philanthropic Charity, St. George's-fields, he has left 1,000*l* each . . . . The vault at Guy's Hospital he selects as the place of sepulture in lieu of Bunhill-fields, on the ground that his late brother, Theodore Hunt, who had used him ill, lies there above their two uncles, and he is determined 'not to mix his bones' with those of the person alluded to."



WILLIAM HUNT

Hunt's wishes were carried out; he lies in a stone coffin in the vault beneath the Hospital Chapel, not far from a similar sarcophagus containing the remains of Thomas Guy, and, in due course, the hundred additional beds were provided.

William Hunt took an active part in the management of the Hospital for over 25 years as a Governor, and he was a "Standing Auditor" at the time of his death. His marble bust stands on the staircase leading to the Court Room, and in the smaller Committee Room, where "School Meetings" are occasionally held, are his chairs, a beautiful set of 14 ordinary and two armchairs of Hepplewhite, with the backs decorated with the graceful husk pattern. Four Chippendale armchairs, with "Chinese" brackets, were also Hunt's, and are probably the most valuable furniture the Hospital possesses.

In the Renter's Office on the ground floor below, which was the Counting House until 1914, are further memorials of Hunt—and Henry Williams, a former Clerk of the Hospital who worked here from 1860 till his death in 1913, used to tell of them. Williams will be remembered by many old Guy's men, a little man with a long beard and a presence, carrying a shawl in the winter and sporting a white "topper" in its season. He must have known in his early days some Governors who were contemporary with Hunt. According to him, the oil painting over the mantelpiece was a Mr. Crank, whose natural sons, William and Theodore Hunt, are portrayed in the miniatures by Gerard, hanging right and left below. The oil is a fine work, almost certainly by Zoffany, and represents Hunt's father as a genial gentleman in a short wig, knee breeches and long coat of the fashionable blue of Gainsborough's "Blue Boy," and long white waistcoat of many buttons covering a comfortable silhouette. A cat asleep on a chair emphasises his kindly, tolerant nature. The miniatures of the brothers are quick profile likenesses by the "photographer" of the day, but William has a recognisably benevolent aspect, while Theodore's sharp nose and projecting underlip make it easy to believe his brother's statement that he had "used him ill." The brothers were silk merchants in the City and lived

at Petersham, and it is related of Theodore that he used to wear his silk stockings until with dirt and decay they would hold together no longer, when he would put on a new pair while driving home and throw the old ones out of the window. The brothers were batchelors but not misogynists, for the mezzotints in this room, signed T. Fry, 1761, of the famous beauties Maria and Elizabeth Gunning, who came to Court from Dublin and married between them two dukes and an earl, were part of Hunt's "residue," and the Governors of that day could not bring themselves to part with them.

R. W. R.

Guy's Teaching

A Few Criticisms and Many Regrets

I burst regretfully from my comfortable Maze Pond shell last June, and have strutted, a half-fledged locum tenens, over much of southern England since then. In various types of practice, town and country, poor and middle class, I have had sometimes occasion to rejoice that it was Guy's that bore me, sometimes to wonder if I was not rather premature (though I was a seven-years' baby). In fact, I am discovering my ignorance and regretting missed opportunities, and I write this hoping it may help embryo practitioners still within Guy's homely womb.

First, I found I must show the world a bold front. No matter how conscious you are of your inexperience, you retard your patients' mental (and therefore physical) progress if you appear unsure of yourself. That is not to say you should provide airy diagnoses to the case the O.P.O. labels G.O.K., but you can impress the patient with your earnest manner of systematic examination in the way you learned so well (or not so well) in the wards between 5 and 7 p.m., and you can take him into your confidence to an extent proportionate to his intelligence.

Guy's cannot teach that most essential thing—management of the relatives, but Dr. French used to hint the secret—"get them busy." But there is a snag; don't get them busy on things you can't do yourself; you feel a fool when they say, "Yes, doctor; and how shall I make the barley water, the linseed poultice, the Friar's Balsam?" You certainly didn't learn how in the wards. At Guy's I was not taught nursing, except at Christmas in the linen cupboards. Every man going into general practice ought to know how to change a bed, to fix up a Fowler's position, to give an enema without making the patient worse.

I was lucky to have had some experience of midwifery beyond the curriculum, but I am horrified to think of the men who go to a country practice after, say, 18 normal labours. The teaching of midwifery at Guy's is first rate, but the practical experience is, I feel, inadequate. There are more men leaving Guy's who have done an appendix or hernia than have put on forceps or done an external version. Guy's is not to blame for this lamentable fact; things are no better elsewhere; the cause is lack of abnormal material, partly due to excellent ante-natal care. The remedy is not clear; perhaps a second extern period to be done by those going into general practice; perhaps admission to the practice of the large infirmaries. Anyhow, if the maternal and fœtal death-rate is to be further reduced, the country G.P. should leave his hospital with a working knowledge of abnormal midwifery.

I feel that in the Special and Surgical Departments I spent too much time on rare and technically difficult things, things that are in the province of the specialist. The children's appointment was most valuable. I wish I knew more about babies in their first year and of the merits of the various artificial foods. There is nothing gives a G.P. more hold on a family than a knowledge of babies, and an ability to examine them without making them cry—much.

I wish I had used my opportunities in the ear department better; I am still not sure when to do a myringotomy, and how. Noses and non-acute throats I have to leave mainly to specialists. I wish that when an orthopædic dresser I had bothered less about Steindlers and more about the early treatment of flat foot. The most useful knowledge I brought away from the genito-urinary department was how to pass a catheter and dilate a stricture. Of eyes I learned little, and I feel that without constant practice refractions are best left to specialists. I have a phobia about glaucoma, and I wish I were confident of spotting it early.

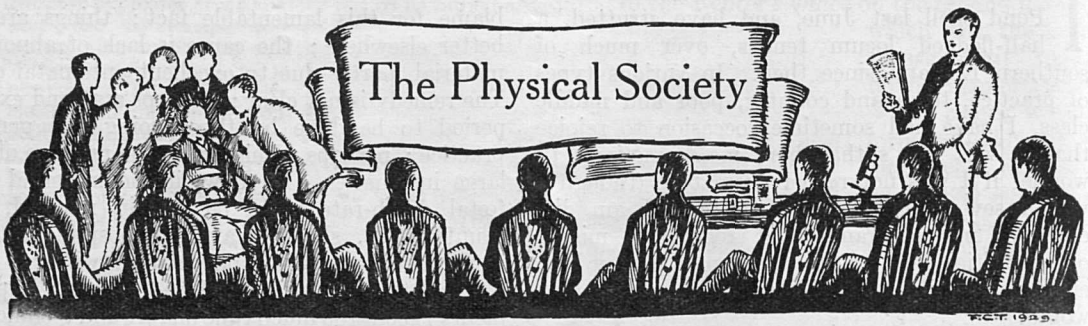
I have a grouse that the light department was not brought sufficiently to my notice. Many doctors have ultra-violet ray lamps installed and are treating with the success born of a new enthusiasm skin diseases, weakly children, and a host of "chronics." I know nothing of appropriate dosage, nor of precautions. I was never shown how to apply CO_2 snow, nor the general principles of radiography. Could not an optional X-ray appointment be arranged for those who will run plant in a cottage hospital? I have not regretted

the time I put in on skins, nor on nervous diseases. The V.D. teaching is weakened in value because apparatus is made much of; anterior wash-outs are not always possible in the country, and alternative treatment by massive fluids is very successful.

I wish I knew more of prognosis, but I suspect that in this experience is the best teacher. Lastly, I have had to do my own dispensing in my last three jobs. I did my dispensing course two years before qualifying, before I knew any medicine. I should like to have done this last of all, and to have learned not only how to avoid incompatibles and overdoses, but also how to make a mixture palatable, or at least bearable. I often taste my amateurish mixtures and wonder how patients endure them, but I am getting past the stage of aqua chloroformæ.

I sometimes feel I have been taught to rely too much on X-rays and Wasserman's, but time and again I have been grateful for Guy's magnificent clinical teaching. My grumbles I make with humility, recognising that Guy's is still the best training ground for the G.P.

S. A.



IT may as well be said at once that the detailed notes of the Clinical Meeting, held on Thursday, October 17th, have, unfortunately, been lost, and in consequence it is only possible to give a very general account of the nature of the cases and the remarks made by the speakers. The five extremely interesting patients shown in the Massage Department reflected great credit on the organising activities of Mr. Bigby, the Chairman, and their signs and symptoms were eagerly elicited by a moderately large attendance which found the ensuing discussion more than entertaining if, at times, a little too lighthearted.

The discussion on the first case was opened by Mr. K. E. LANE. A child, aged 2 years, had frequently fallen into a comatose state during the past few months. Estimation of the blood sugar during the various attacks had given figures varying from 45 mg. to 180 mg. per 100 c.c. and ketone bodies had been present in the urine. Suggestions as to the nature of the disorder were invited.

E. L. GRAFF speaking by virtue of recent pediatrical experience, found the enumeration of the several characteristics of the *hypoglycæmic child* too great a rhetorical strain, but assured his audience that the condition *hypoglycæmia* could now be regarded as a definite clinical entity. The case under consideration, in his opinion, did not quite conform to the usual picture of the " sugar-short " infant.

S. M. COHEN inclined towards some vague endocrine disturbance as an explanation of the illness. He invited an opinion from W. D. JONES, who, keen on another kind of disturbance, ventured the opinion that *hypoglycæmia* was nothing if not the refuge of the pediatrician unable to diagnose his case.

K. E. LANE, summing up, reiterated the ketonæmic aspect of the case and left it at that.

Mr. S. D. MCLEAN briefly described a fluctuant swelling which had recently appeared on the chest wall of a diabetic subject, who also complained of some visual deficiency. There was a definite lymphocytosis, but no pyrexia.

W. D. JONES confidently asserted phthisis to be commonly associated with diabetes and diagnosed a tuberculous abscess originating in a rib. Although advocating surgery he was regretfully confident of the " ultimate prognosis."

T. T. STAMM, while not disputing the assertion of the previous speaker as to the nature of the swelling, made the ingenious suggestion that a tuberculoma of the pituitary body was all that need be postulated in order to bring the remaining symptoms under one "tubercular" pathology.

S. M. COHEN confessed uncertainty as to the pituitary physiology and appealed for expert assistance which—

Dr. HAMPSON was persuaded to supply.

S. D. MCLEAN in closing the discussion, was unable to countenance the cerebral extension of the tubercular process, and held the visual symptoms to be explained by a neuritis of diabetic origin He agreed with surgical treatment in spite of the ultimate prognosis.

Mr. ELVEN reminded himself of the several investigations that had been performed, so far without success, to determine the nature of an abdominal tumour in an elderly woman. The fæcal specimen sent to Dr. Ryffel was said to have given a positive guaiac reaction, and even the last members of a long queue had no difficulty in palpating the mass in question.

E. L. GRAFF speaking from even more recent gynæcological experience, found the tumour to possess certain pelvic characteristics unmistakeable to the expert in such matters.

W. D. JONES in view of the vaguely suggestive nature of the gastric X-ray, could not resist a diagnosis of *Krukenberg's* tumour, and stung by hostile criticisms to a spirited defence of his opinion made use of the well-worn Friday afternoon quip about the elephant seen "walking down the Strand."

S. D. MCLEAN unwittingly arrived at a similar diagnosis by a different and much less picturesque route.

K. E. LANE found certain characters of hardness and fixity to suggest a retro-peritoneal sarcoma.

J. E. MORTON quietly, but incisively, crushed all gynæcological quibbling by quotation of a consultant opinion following adequate pelvic examination. He inclined to a diagnosis of colonic carcinoma and proposed to submit the case to laparotomy.

(NOTE.—Laparotomy on 17th October, 1929, revealed a hard fixed retro-peritoneal mass ulcerating into the intestine.)

Mr. MCDOUGALL related the unusual history attached to a small boy aged five years. A large fluid collection had been discovered in the left chest during the course of a routine medical inspection at school. There was a history of recent measles, but hardly any other symptoms or disability. Paracentesis performed in hospital had produced a thick creamy fluid microscopically merely cellular debris and bacteriologically quite inactive even when injected into a guinea pig.

J. C. HEATHER amplified the account of investigations, emphasising the entire absence of history and the stability of the fluid contained in the pleural cavity. He considered the possibility of a chylous effusion, but was forced to reject it.

S. M. COHEN and several other speakers were intrigued by the anatomical possibilities of the thoracic duct.

K. E. LANE felt that bronchiectasis, admittedly of an unusually quiet type, had to be considered.

E. T. CONYBEARE described a similar case in which a guinea pig had helped to confirm a diagnosis of chronic tuberculous empyema.

Dr. HAMPSON considered that this type of case was invariably found in the end to be of tuberculous origin.

The case in which a brachial peri-arterial sympathicectomy had been performed for incipient gangrene of the fingers was described by Mr. R. Nash. The somewhat desultory discussion which followed concerned the merits of this operation together with its physiological basis, if any, and was considerably brightened by the CHAIRMAN'S remarks on "perineurectomy." By this time, interest was evidently flagging, and a timely adjournment cut short the meeting's expression of impatience with a surgical procedure that rarely appeared to produce results.

PHYSICUS.

Overheard at the Biennial

1854 In my time the House Surgeon was the man who mattered.
1890 I always tie off the cord with a length of string.
1902 How many? Five—all boys.
1910 Of course I don't play *golf*, but last week I went round Worthing in 79.
1912 Practice in Chatham, old boy, is simply Hades.
1915 Are those chrysanthemums really yellow?
1926 Hey hey, voh de oh doh, that's life!
1927 It'll either be a bail out or a washout or both—any offers?
1928 Are you the blighter who mixed up my dress shirt with my rugger togs?

Spinal Anæsthesia Using Spinocain

By Ronald Jarman, D.S.C., M.R.C.S., L.R.C.P.

SPINAL anæsthesia has been used for some time, more on the Continent and the United States of America than in this country, due to the fact that the standard of general anæsthesia in Great Britain has always been very high.

Cocaine was used to begin with and then stovocaine, which is still universally used; novocaine and tropacocaine took their place to a certain extent.

The disadvantage of the first was that it was toxic and had to be carried about in bulk, whilst novocaine, stovaine and tropacocaine were made up in the correct dosage in vials of 2 to 3 c.c. These are used extensively all over the world, but they have a very definite degree of uncertainty. In all these solutions adrenalin is added, but is not standardised.

ORAL EPITAPHS II

Mercury, the messenger divine,
Did with goodwill from old Olympus shine;
Now from the same Olympic height,
with face serene,
Our Messenger's seraphic smile
lights up the scene.

The objection to these solutions is that in a certain number of cases the patient suffers from nausea, respiratory failure, headache, incontinence, vomiting, and ocular palsies, and these are attributed to the fact that the blood pressure is suddenly lowered. Fall in blood pressure increases the operative risk in the patient considerably, as spinal anæsthetics are usually given where the risk of a general anæsthetic is too great, *e.g.*, when the patient is very ill, has a bad chest, weak heart, shock or hæmorrhage, and a good spinal anæsthetic may mean the saving of this patient's life for a little longer. The operation is committed to a definite dose which cannot be withdrawn.

If the operation takes too long, the anæsthetic becomes useless, and general anæsthesia has to be resorted to, though it is usual to give gas and oxygen with all spinals if the latter is available. This is given as the patient sometimes objects to being conscious and having the spinal administered. Another fault is that an aseptic meningitis often develops, due to the chemical irritation of the injected fluid, or it is said it is due to the faulty technique.

Now spinocain, which has been introduced by Pitkin, of U.S.A., this year, and has been discussed at the last meeting of the B.M.A. in Manchester, has helped to solve most of these difficulties. Pitkin's preparation comprises the two following:—

(*a*) Ephedrin-novocaine solution contains in each 1 c.c. ampoule; ephedrin hydrochloride 5 per cent. and novocain 1 per cent.

(*b*) Spinocain in each 2 c.c. ampoule contains: novocain 200 mg. and strychnine sulphate 2.2 mg., in a special solvent consisting of alcohol (14.5 per cent.) and sterile water, with the addition of an amylo-prolamin combination.

The amylo-prolamin constituent gives viscosity to the spinocain and prevents its diffusion; the alcohol diminishes the specific gravity, so that when injected into the spinal column, it floats on the spinal fluid like an air bubble, thus producing controllable spinal anæsthesia. The anæsthetic action is delayed, and it usually takes from 10 to 20 minutes before the novocaine has its full effect. The dosage is 1 c.c. for operation in the perineum, 2 c.c. for operation below the umbilicus, and 3 to 4 c.c. for operation up to the costal margin. Children: Dosage according to the weight, using Pitkin's table.[1]

MODE OF ADMINISTRATION

Spinocain on no account is to be given with the patient sitting up. Put the patient in the recumbent position, lying on the left side with the back well arched. Using strict aseptic precautions, produce the local anæsthesia with the first solution, and with a small syringe cause a weal to be made; then pierce this and infiltrate as far as the spinal vertebræ. The injection, as with all other spinal injections, is made opposite the second and third lumbar vertebra. Introduce the spinal needle and pierce the spinal column. Allow 1 c.c. of spinal fluid to drip away, and then introduce the spinocain. The level of anæsthesia is determined by the Trendelenburg position, and the mixing of the spinocain and the spinal fluid. When the spinocain is injected into the spinal canal, it is usual to withdraw the spinal fluid plus the spinocain, into the syringe. This can be done several times if necessary, using a 2 c.c. syringe. It is usual to withdraw the mixed fluid three times for pelvic operations, and six times for upper abdominal operations.

Immediately after the injection, place the patient in the Trendelenburg position from 10 to 20 degrees, according to the type of operation; about 10 to 15 degrees for pelvic, and 15 to 20 degrees for upper abdominal operations.

PRECAUTIONS

Keep the patient flat for at least one hour after the operation to ensure the spinocain being absorbed. Ephedrin is given in the first injection to counteract any vasomotor depression that may occur. If the blood pressure does happen to fall during the operation, which is unlikely, give the patient an injection of Ephedrin subcutaneously.

If the patient's respiratory centre is depressed, oxygen given by the mouth soon remedies this. There are no complaints of headache, vomiting, palsies, or any of the bad effects produced by the other spinal anæsthetics mentioned at the beginning of this paper.

I have been using spinocain for the last six months on cases of varying types. This was first introduced by Mr. W. H. Ogilvie, M.Ch., F.R.C.S., who had been supplied with some of the first samples obtained from America by Bayer & Co. I have found that in my hands it has fulfilled the claims made by its introducer.

It has been noticed by the surgeons, operating on the cases described later on, that the relaxation has been considerably better than with the other solutions that were mentioned at the beginning. The anæsthetic lasted much longer and the patient rapidly reached the stage of convalescence.

Following up some of my first cases, not one of them has complained of any ill-effects, such as headache or pain in the lumbar region. It is possible to give this type of anæsthetic with gas and oxygen, as long as morphia, grain $\frac{1}{4}$ and hyoscine, grain 1/100 are given half-an-hour beforehand. Several patients have been treated like this, and have been amazed when they have been told that they have had an operation.

In giving spinocain, it is advisable to watch the respirations very carefully, and, if necessary, give oxygen or oxygen combined with carbon dioxide, if the respiratory centre is affected in the slightest. It is useful to watch the blood pressure, though this will hardly be affected at all. After the operation, if possible, it is safer to keep the patient flat for six hours, and then to be put in any position that is required.

My technique has been the same as advised by the founder, and I have no criticism to make, except that if the blood pressure does fall, 1 c.c. of adrenalin and ephedrin solution soon rectifies this.

I strongly advise other anæsthetists to give this anæsthetic a fair trial, and I think that they will agree with me that this is a great advance in spinal anæsthesia. The general condition of the patient after the operation is the most striking point in the favour of using spinocain.

The following illustrative cases emphasise the value of the method.

1. Male, age 74. Enlargement of the prostate.

The patient had complained of symptoms of urinary obstruction for two years which had become much worse during the last six months. There had been four attacks of complete retention, relieved by the passage of a catheter. On the last occasion a severe cystitis supervened, which only yielded to prolonged drainage, and lavage of the bladder. Maclean's test showed a concentration of 1.8 and the blood urea was 55 mg. per cent. Prostatectomy under general anæsthesia was, therefore, out of the question, yet the conditions of his home made catheter life impossible.

Operation, 21st May, 1929. Morphia, grain $\frac{1}{4}$, and hyoscine grain 1/100 were given half-an-hour before the operation, and anæsthesia was induced by 2 c.c. spinocain. The operation was one of considerable difficulty, and lasted for one hour. The prostate proved on section to be malignant, could not be enucleated in the ordinary manner, and had to be removed by blunt dissection, some of the firmer shreds of tissue being divided with the knife. Except for shallow breathing on three occasions, which was relieved by administering oxygen, his condition during the operation gave rise to no anxiety. He was kept flat for six hours on returning to bed, but after that was allowed to assume any position. There were no unpleasant after-effects, and he made a rapid recovery. It was hard to convince the patient that he had had an operation.

2. Female, age 63. General peritonitis.

This patient was unfitted for general anæsthesia, owing to chest complications. Morphia and hyoscine were given and anæsthesia induced by 2 c.c. spinocain. The operation was a quick one. As soon as the abdomen was opened, large quantities of pus escaped; drainage tubes were inserted, and the patient returned to bed. This patient also made an uneventful recovery, and could not understand that she had had an operation.

3. Female, age 65. Carcinoma of the rectum.

Morphia, grain $\frac{1}{4}$, was given, and anæsthesia induced by spinocain. This was followed by gas and oxygen. The operation, an abdomino-perineal resection in one stage, lasted one hour and fifteen minutes; anæsthesia was perfect, and relaxation complete. The blood pressure was 140/110 before operation, and 100/70 at its conclusion. The patient was given a blood transfusion on returning to bed. She felt no ill-effects from the anæsthetic, no sickness, and no headache.

4. Male, age 56. Carcinoma of the rectum.

Preparation and anæsthesia were the same as in the last case, gas and oxygen being used in addition to the spinocain. Abdomino-perineal resection was performed in one stage. and relaxation and anæsthesia were entirely satisfactory throughout. The main point of interest in this case, is that the breathing became very shallow, and CO_2 had to be administered twice. The operation lasted an hour and a half, and there was very little shock; the blood pressure was 160/110 before the operation, and 105/75 at its termination. This patient also had a blood transfusion as soon as he got back to bed. He made an uneventful recovery, and had no sickness or headache.

5. Female, age 68. Carcinoma of the colon (irremovable).

Anæsthesia was by spinocain, followed by gas and oxygen. Colostomy was performed. The patient made an uneventful recovery and her condition afterwards gave rise to no anxiety.

This paper gives a brief idea of the value of spinocain, and supplemented by a series of cases of severe operations on patients in poor condition, in whom a general anæsthetic would have meant a severe risk, and were given spinocain, which produced a perfect anæsthesia and uneventful recovery. From my short experience I consider it worthy of extended use and recommend it to others.

The author claims it to be of special value in severe operations on the lower limb, such as high amputations in shocked patients, and severe operations on the hip joint, such as reconstruction operation for osteo-arthritis in elderly people.

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Correspondence

The Biennial Dinner

To the Editor of the GAZETTE

SIR,—Among the pleasant incidences at the recent Biennial were two which probably escaped general notice.

The first was the reverent cheering which rose from a table occupied by very recently qualified men, when Dr. Dixon, who qualified in 1854 passed by on his way home, supported by an old Guy's man, who qualified in the early nineties.

The second which is certain to give unbounded pleasure to the recipient, was the sending of a telegram to Mr. Lambrinudi with best wishes for his speedy recovery " from the men of his year."

Yours, etc.,
C. H. F.

3, Devonshire Place,
Portland Place, W.

To the Editor of the GAZETTE

SIR,—The arrangements for the Biennial Dinner are always admirably carried out, but I wonder if you will mind a note of criticism in regard to one point, namely, the date at which it appears invariably to be held. Most of those attending are from London and the Home Counties and the time of year chosen does not probably make much difference (although it must make some) to them.

But one would like to see more of those who live in the remoter districts of the Country, and here it seems to me that the time of year always chosen (the month of October) is a great obstacle. If the dinner was held in, *e.g.*, July, there must be a great number who would be taking holidays in London or the South of England about that time, or at all events would find it much more easy and convenient to get away from their work. Those, too, who live abroad, usually take their leave in the summer time, and would probably, choose the opportunity to attend. The pro's in favour of a change appear to me to be summer weather and better travelling facilities—the greater attractiveness of London during the season—and the more generally convenient time for absence from home for nearly everybody. I do not know of any " con's," but perhaps there are some weighty reasons in favour of the middle of October. The argument that the function is successful is not necessarily a sound one. Might it not be more successful still ?

Yours, etc.,
RUSTICUS.

Correction

To the Editor of the GAZETTE

SIR,—In the note of the case of meningococcal meningitis published last week, the P.-M. appearance of the dura after ventriculo-puncture was described as infected. This should, of course, have been " injected."

Yours, etc.,
C. F. COSIN.

Sport

Rugby

Guy's v. U.C.S. Old Boys

PLAYING at home on Saturday, October 12th, Guy's succeeded in registering their first success of the season by defeating U.C.S. Old Boys by four goals and a try (23 points) to a goal (5 points).

It was an ideal day and the ground in excellent condition. Guy's fielded the same side which had represented them the previous week at Portsmouth, and gave a vastly improved display.

They thoroughly deserved their win, but they appeared to tire in the closing stages and were content to take matters rather easily.

This was particularly noticeable when Every was allowed to cross our line and register a try behind the posts, without any attempt being made to tackle him.

The Old Boys put up a good fight and had they accepted the chances that came their way, they might have scored on at least two or three occasions. On the other hand, Guy's gave a masterly display in the first half, and as a result of some brilliant passing between the backs, were able to establish a lead at the interval of 18 points to nil.

Hogbin played a great part in the victory, being particularly good in the loose and very accurate with his kicking. Incidentally, both Hogbin and Atkins had represented Middlesex against Somerset earlier in the week and both played well.

Fichardt played one of his best games since he came to the Hospital, and throughout the game

did many clever things. His own individual effort just before the interval resulted in the best try of the match, when he had to dodge or side-step from opponents before crossing the line.

In the first few minutes, Atkins seized upon a good opportunity, and running from midfield, broke through the centre and enabled Lewis to give a reverse pass to Hogbin who scored in an easy position and converted his own try. Soon after Robinson made a dashing run along the wing and was only hauled down in the Old Boys 25.

After Lewis had found touch in the corner, the visitors participated in a fine bout of passing and looked certain to score, but Lewis intercepted and brought relief.

Guy's continued to press, but were penalised when a score seemed inevitable. However, the kick was charged down and the ball was sent via Thomas, Atkins to Fichardt, who scored in the corner for Hogbin to convert with an excellent kick from the touch-line.

Another score almost followed in the next minute when Clogg broke clean away, but Robinson knocked on when he had a clear run in.

After our backs had participated in another bout of passing, Thomas tackled the full-back in possession, and gaining possession of the ball sent to Atkins, Fichardt and Robinson, for the latter to register an unconverted try.

The visitors made several attempts to break through, but Hale-Munro was very safe at full-back and kicked with excellent judgment.

Just before the interval Fichardt registered a brilliant try for Hogbin to add the entire points.

The second half was evenly contested and in the opening minutes the Old Boys pressed in our 25. Fichardt brought relief with a fine burst through the centre and sent out a long pass to Robinson who was brought down in the corner.

A fine run by Browne carried play to our 25 and soon after Hale-Monro was collared in possession on the goal line—nothing resulted, although for a time we were compelled to defend.

A little later A. J. D. Lewis accepted a pass from Clarke and crossed the line, but knocked down the corner flag in doing so.

The forwards then attacked and Batchelor managed to hurl himself over for a try which Hogbin converted.

Just before the final whistle U.C.S. Old Boys scored their only try which was converted by Sutcliffe.

Guy's Team—T. A. Hale-Monro; T. G. Robinson (capt.), T. Fichardt, H. J. B. Atkins, A. J. D. Lewis; I. K. Thomas, W. D. G. Jones; C. D. Malone, R. A. P. Hogbin, J. S. Batchelor, A. R. Clarke, J. Kunovsky, D. S. Clogg, L. S. Woodivis, G. F. Lashmore.

Association

Guy's v Old Carthusians

THE Old Carthusians were the visitors to Honor Oak Park on Saturday, October 12th. The ground was very hard and a fast keen game ensued.

The match opened at a tremendous pace, and for the first 10 minutes Guy's held the advantage. Following several narrow escapes for the visitors, play was transferred to the vicinity of Guy's goal, and with their first shot the Old Boys scored. This was an unexpected set-back to Guy's and was completely against the run of the play. After this, the Guy's forwards kept the Carthusian goalkeeper very busy, and just before half-time Wood scored off a rebound from the cross-bar. However, almost immediately the Carthusians again scored.

The second half was not fought at such a great pace, but Guy's still had most of the play and only splendid work by the Carthusian goalkeeper prevented a score on numerous occasions. After about 15 minutes, Wood equalised and soon afterwards gave Guy's the lead. This stimulated the Old Boys to greater efforts and clever headwork once more levelled the score. Just before time Wood restored the lead to Guy's, but with almost the last kick of the match, the Old Carthusians equalised. Thus, a very enjoyable game, ended in a draw, 4—4.

Guy's Team—Stevens; A. Eckford, D. B. Smallshaw; A. M. Cantor, R. Stubbs, C. H. Fagge; J. Fitzgerald, E. Sharp, B. C. Morton-Palmer, C. E. R. Wood, J. Small.

Other Results—

Oct. 9th *v.* R.M.A. (away). Won 4—0.

Oct. 19th *v.* Old Aldenhamians (home). Won 5—0.

Guy's v Bradfield Old Boys

FOR this match at Honor Oak Park on Saturday, October 26th, Guy's fielded the same team that had beaten the Old Aldenhamians so convincingly the previous week.

Bradfield have had a good team for the past two or three years, and we were very keen to have our revenge for past defeats. The score of 3—1, in favour of Guy's, was well-deserved and might easily have been much larger but for Stevenson, the Corinth player, who, at full-back, was a tower of strength to the visitors. He played a really magnificent game and was the outstanding player on the field.

In the first half Guy's were definitely on the offensive, but delay in passing the ball meant time for the opposing defence to get back, and, in

consequence, the ball never quite got into the net. At half-time the score was 0—0.

For the first 15 minutes of the second half, Guy's were rather lazy, and, in consequence, hard pressed. This is an old failing of the team and must be eradicated. Cantor came to the rescue with a splendid dribble right across the field by which he got the ball up to the visitors' penalty area, and enabled Sharp to open our scoring.

Guy's were now playing much better and a second goal from Cantor from a really good shot put a different aspect on the game. A third goal gave Guy's a winning lead, but Bradfield never slackened, and a good movement on their left wing gave them a well-earned goal.

There can be no doubt that we have a better team than we have had for some years. Although, individually, not brilliant, the team is a good one, partly by reason of the energy everyone displays and partly by reason of the excellent understanding there is throughout the team.

May the season be as successful as it promises to be!

Guy's Team—J. Carr; G. Brummitt, D. B. Smallshaw (Capt.); A. M. Cantor, R. Stubbs, C. H. Fagge: J. Fitzgerald, E. Sharp, H. Edwards, C. E. R. Wood, J. M. Small.

Golfing Society.

FROM the date of its inauguration, in 1908, the Golfing Society has been steadily increasing its numbers. Last season there were to be seen more golf bags carried in and around the hospital than ever! And from all reports, this season will prove no exception thus showing the ever increasing popularity of the game. Perhaps the most outstanding feature of last season's activities was our reaching the semi-final round in the Inter-Hospital Challenge Cup Competition. This was entirely due to the very excellent team representing the hospital. When it is said that the whole team consisted of men possessing single-figure handicaps, it will be seen that the team this year was one of the very best the hospital has ever had.

Not only did we reach the semi-final round against St. Thomas's, but it took them three attempts to beat us, the results on the first two occasions ending up "6 matches all." This is very encouraging, particularly so when it is remembered that St. Thomas's Hospital usually receive no opposition whatever!

There were a large number of matches played both at home and away, but, owing to the fact that we were unable to turn out some of our best men, owing to hospital duties and troublesome examinations, our percentage of victories was not as high as it might have been.

P. H. Lomax is to be congratulated on winning the Cup presented by the Staff, for 1929. This Cup is competed for yearly and the Competition is on the knockout principle.

There is a list posted on the notice board in the Colonnade attracting the names of new members, and it is hoped that everyone who is keen to "swing a club" will append their names.

For the benefit of these new members, it should be mentioned that the Hospital's Course is at Sidcup, easily reached by electric train from London Bridge (Southern Railway—High Level) and the Green fee is a special one of 2s. 6d.

The following officers were elected at the last Annual General Meeting:—

Captain—P. H. Lomax; *Hon. Sec.*—H. B. Thornton; *Committee*—C. D. Malone; W. Lewis; H. Cameron; W. J. Cotton; L. W. Cann. *Team*—W. Lewis; J. Johnstone; H. Cameron; H. B. Thornton: P. H. Lomax; C. D. Malone; W. J. Cotton; W. L. Mountain

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Result of 4-ball Foursome Competition *v.* Bogey, played at Sidcup on Wednesday, October 2nd.

T. H. Chignell, M. W. Pilcher — 4 up.
F. Gilbert, P. Bishop — Tied at 1 up.
T. H. Gaffney, K. Whitworth — Tied at 1 up.

Result of second 4-Ball Foursome *v.* Bogey, played at Sidcup on Wednesday, October 23rd:—

F. J. Stoneham 16
B. Wilberforce-Smith 8
— 4 up.

Fencing

Guy's v. R.N.C. Greenwich

IN this match, which took place on Friday, October 25th, at Greenwich, the Hospital followed up their earlier victory, over the R.M.A. (Woolwich), by beating the Royal Naval College in a three-weapon contest. The Hospital won both Foil and Sabre, but were beaten in Epée.

In Foil the R.N.C. were well served by Turner, but he was beaten in a good fight by Monkhouse, who used the Italian style with great effect. In Epée, however, the R.N.C. dominated the situation, Turner having his revenge on Monkhouse, who was rather ineffective.

Rink was sound with both weapons, but Holman never seemed quite at his ease in Foil. Some excellent fights took place in Sabre, the best of the evening being that between Garrus and Carew,

with the score at two all. Garrus just pulled it off and won all his fights, but Carew's beautiful stop-cuts to the wrist scored heavily against the rest of the Guy's team. Irish, considering this was his second match, may be congratulated on only succumbing to Carew, and he used his reach and speed to great advantage.

Wright was sound, but never quite settled down.

Foil

R.N.C.—Turner 1 defeat, Sarrell 3 defeats, Hardie 2 defeats. Total 6 defeats.

Guy's.—Rink 1 defeat, Holman 2 defeats, Monkhouse no defeats. Total 3 defeats.

Guy's won by 3 defeats to 6.

Epee

R.N.C.—Turner 0 defeats, Sarrell 2 defeats, Jamison 2 defeats. Total 4 defeats.

Guy's.—Garrus 2 defeats, Rink 1 defeat, Monkhouse 2 defeats. Total 5 defeats.

R.N.C. won by 4 defeats to 5.

Sabre

R.N.C.—Carew 1 defeat, Jamison 3 defeats, Sarrell 2 defeats. Total 6 defeats.

Guy's.—Garrus 0 defeats, Wright 2 defeats, Irish 1 defeat. Total 3 defeats.

Guy's won by 3 defeats to 6.

Result.—Guy's won by 11 defeats to 16.

Guy's v. The Masks

ON Saturday, 26th October, the Fencing Club followed up this victory over the Royal Naval College by beating a strong team of the "Masks" Fencing Club in a three-weapon match by 12 defeats to 15.

In the Foil event the Hospital were represented by E. L. Monkhouse, P. A. Gorer and E. H. Rink. The first two fought well and won all their fights.

In the Epée, the same three represented the Hospital, and by each winning two of their three assaults, secured the event by 3 defeats to 6.

In the Sabres, our opponents put up a very strong side against us, which resulted in our defeat by 2 defeats to 7. The two victories being gained by E. L. Monkhouse after a long struggle. S. Wright and D. H. Irish, who replaced Gorer and Rink in this weapon, fought in a most convincing manner, particularly the latter who, on one occasion, only lost by one hit.

Hospital Information, etc.

Pass List

SOCIETY OF APOTHECARIES

PRIMARY EXAMINATION

October, 1929

J. A. Bates. *G. E. Ellison.
C. W. Cross.

*Physiology only.

UNIVERSITY OF CAMBRIDGE

Doctor of Medicine

N. F. C. Burgess

Papers by Guy's Men

G. F. Gibberd, M.S., F.R.C.S. The Results of Induction of Labour with Animal Bladders, *Brit. Med. Jour.*, 1929, ii, 617.

J. Lewin Payne, M.R.C.S., L.R.C.P., L.D.S. Some Cases of Delayed Eruption of the Teeth, *Dental Record*, 1929, xlix, 463.

E. G. Slesinger, O.B.E., B.Sc., M.S., F.R.C.S. Radium in Surgery, *Clin. Jour.*, 1929, lviii, 445.

Thos. G. Stevens, M.D., F.R.C.S. Pitfalls in Obstetrics, *Clin. Jour.*, 1929, lviii, 457.

G. B. Dowling, M.D. (1) Acquired Epidermolysis Bullosa (?), (2) Hypertrophic lichen planus, *Proc. Roy. Soc. Med.*, 1929, xxii, 1536, 1537, Sect. Dermat. 38, 39.

C. Gill-Carey, F.R.C.S. Tuberculosis of Soft Palate, *Ibid.*, 1557, Sect. Laryngol, 75.

C. S. Hallpike, M.B., M.R.C.P. Some observations on Bone-conduction (Abstract), *Ibid.*, 1576, Sect. Otology, 151.

Change of Address

E. C. Irish, Royal Herbert Hospital, Woolwich, S.E.

G. Curtis Ferguson, L.D.S., 11a, Dee Street, Aberdeen.

Dr. Lockhart E. W. Stephens, C.B.E., D.L., "Essenside," 1, Glenferness Avenue, Bournemouth.

C. W. Pound, L.D.S., 87, Cambridge Road, New Malden, Surrey.

J. Dodds Price, "Woodlands," The Close, Blackheath, S.E.

Geoffrey J. T. Jose, 125, Green Street, Eastbourne, Essex.

W. S. Whimster, 52, St. Giles Street, Norwich.

Drs. Glendining, Watson and Berry, 6, Upton Road, Watford.

R. S. Aspinall, Major I.M.S., Foreign and Political Department.

Marriage

COOMBS—COWIE.—On August 1st, 1909, at Lusikisiki, South Africa, Cyril Coombs, M.R.C.S., L.R.C.P., of Lusikisiki, Pondoland, South Africa, to Mrs. Lilian M. Cowie, of Durban, South Africa.

Death

BETTS—On October 18th, 1929, G. Owen Betts, L.D.S.

EDS. { E. T. C.
J. B. B.

GUY'S HOSPITAL GAZETTE

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PASSIM

THE course of light operatic love never did run smooth. However, after a vocal squall or two had nearly wrecked the vessel at the dress rehearsal, the Musical Society sea proved smooth enough the succeeding evenings to allow Sir Joseph Porter, K.C.B., and his alarming bevy of blushing beauty to board *H.M.S. Pinafore* on no less than four separate occasions with the greatest credit to all concerned. A critical comment on the exceedingly choral reception accorded to the visiting party by Captain Corcoran and his gallant crew, we leave to another and more competent pen on a different page, and here would offer only the congratulations on a successful venture in the face of great difficulties that more become this column.

The "call of Gilbert and Sullivan" was the singularly appropriate phrase coined by Mr. Eason, speaking at the conclusion of the final performance, to express that urge which could inure a large number of the nursing staff to an incredible sacrifice of leisure for months on end and lead their male contemporaries to suffer the equal discomfort of College dinners over a similar period. We can find nothing but enthusiasm for anything which could produce such a remarkable exhibition of physical fortitude, and yet to our great surprise, we learn that members of a certain department of this hospital are forced to stand as aloof from this inspiring call as the block housing their activities does from the other buildings in the Park. The very suggestion that their carefully cultivated professionalism should give way to such primitive impulses as those of song and dance in any way more spontaneous than that of a remedial exercise is, we understand, greeted with a terrible frown and the threat of dire penalties.

We feel sure that a few well-directed invitations to attend next year's production of "The Yeoman of the Guard," would accomplish as easily and pleasantly as possible a highly desirable change in this sorry state of affairs.

WE note with great pleasure that a portrait of Mr. Hopson has recently been hung with those of other distinguished Guy's men on the staircase leading to the Court Room. The attached inscription bears witness to a remarkable record and reads as follows :—

"MONTAGU F. HOPSON
The First Student in the Dental School of Guy's Hospital, 1889.
Assistant Dental Surgeon, 1893.
Dental Surgeon, 1907.
Consultant Dental Surgeon, 1927.

AN old Guy's man has presented to the Gazette Museum of Antiquities a small but extremely interesting volume written by John Wesley about 1750, entitled *Primitive Physic* or *An Easy and Natural Method of Curing Most Diseases*. This unusual little book well repays a brief perusal, and we found it more than entertaining from several points of view. A lengthy preface combines a vigorous theological dissertation on the fall of man as the fount and origin of all disease with a recommendation of cold baths and moderation at table as almost infallible cures. Some of the treatments are distinctly anticipatory of modern practice. Thus the cure of costiveness is to "live upon bread made of wheat flour with all the bran in it," Seville oranges are advised for scurvy, and for cancer of the breast the patient is to "apply a piece of sheet lead, beat very thin, and pricked full of pinholes for days or weeks to the part affected." An eminently practical measure advised for scabies is "to steep a shirt half-an-hour in a quart of water mixed with an ounce of powdered brimstone, and after drying slowly to wear it five or six days." What appears at the present day to be sound advice is mingled indiscriminately with the prescription of such

weird concoctions as that of goose dung and celandine for erysipelas. A disease somewhat picturesquely named the *Iliac Passion* is defined as a condition in which "with violent colic the excrements are thrown up by the mouth in vomiting," and the treatment advised on no less an authority than that of the famous Dr. Sydenham is to "hold a live puppy constantly to the belly," a procedure of startling simplicity and, no doubt, more effective than any hot water bottle ever invented.

Mr. Oliver Plowright's convalescence from the serious illness which delayed his departure to take up a new appointment in Bristol will be most welcome news to his many friends here at Guy's. It was universally recognised that the undoubted success which attended the various residential activities during last Christmas and the New Year was entirely due to his singular gifts and the unlimited energy he gave to the performance of the many and varied tasks which fall to the lot of a President of the Residents at such a time. As an editor of the *Gazette*, he gave, over a lengthy period, a similar measure of unsparing effort with fluent and easy pen to the preparation of an attractive record of hospital activities, and the literary gap left by his resignation proved more than difficult to fill.

Together with congratulations on the prospect of an early return to professional duties, we would like to offer Mr. Plowright an expression of the general good wishes that go with him on his departure to the West of England.

The Residents have elected Mr. E. H. Sears as their President and Mr. T. T. Stamm as Vice-President for the ensuing three months.

We learn that the sale of tickets for the two Cinderella Dances to be held in the Court Room on the evenings of Wednesday and Thursday next, has been very brisk indeed. A strict limitation of numbers is rendered imperative by the nature of the floor which was built before the days of saxophones or syncopation, so that if an excellent opportunity of supporting the hospital funds is not to be missed, application should be made, without delay, to one or other of the sources mentioned in the posters to be seen in various places about the hospital.

Obituary

EDWARD ERSKINE HENDERSON, M.B., F.R.C.S.

THE news of the sudden death of Edward Erskine Henderson on August 23rd, 1929, came as a great shock to his many friends. The eldest son of the late Edward Henderson, of Shanghai, he was born in China in February, 1870. Educated at Harrow and St. John's College, Cambridge, he later came to Guy's where, after qualification, he was house surgeon to Mr. Golding-Bird, and obstetric assistant to Dr. Peter Horrocks. Leaving hospital he went out to join his father's practice in Shanghai.

Henderson returned to England in 1898 to work for the F.R.C.S., and began to study ophthalmology at Moorfields under Sir John Tweedy and Mr. William Long, working there for the long period of fifteen years. Handicapped by deafness he was not over fortunate in the race for clinical appointments, but held an ophthalmic surgeonship at the West Ham Hospital, and, for a short time, an assistant surgeonship to out-patients with the post of pathologist at the Royal Eye Hospital. He retired from practice in 1920.

For twenty years he was editor, first of the *Ophthalmic Review*, which he took over in 1910 and steered through a very critical period until it became amalgamated with the *Royal London Ophthalmic Hospital Reports* and the *Ophthalmoscope* into "The British Journal of Ophthalmology," of which he became senior editor in 1923. Those of us who have worked with him month by month during the latter years, know how greatly he will be missed. His critical mind, shrewd judgment, and keen sense of humour, made him an ideal colleague. With Professor Starling he was the author of an important piece of research work on the factors which determine the production of the intra-ocular fluid, the paper being published in the *Journal of Physiology* during 1904, and in the *Proceedings of the Royal Society* for 1906, but apart from this and his routine editorial work, he wrote little.

Outside these occupations he had many interests; in his younger days a fine horseman, he was also a good shot and competed regularly at Bisley for some years before the war. No catalogue of his excellencies can fill the gap caused by his death, and to the writer, who had known him intimately for more than twenty years, the blank is irreparable.

Henderson's eldest son was killed during the Great War in 1918: the sincere sympathy of all his many friends will go out to his widow and his surviving children in their bereavement.

R. H. H.

Ascites

A Clinical Lecture by Dr. L. J. Witts

I saw one shapen like a lute, if he had only had his groin cut short at the part where man is forked. The heavy dropsy, which with its ill-digested humour so disproportions the limbs, that the visage corresponds not to the paunch, made him hold his lips apart, as does the hectic patient, who for thirst curls the one lip towards the chin and the other upward.—Dante, Inferno, Canto xxx.

ASCITES denotes a collection of serous fluid in the peritoneal cavity. It may be part of the general dropsy of disease of the heart or kidneys, but, in this lecture, I shall confine myself to ascites without general œdema. The chief causes of such an ascites are cirrhosis, portal obstruction and tuberculous, chronic or malignant peritonitis.

If the fluid accumulates rapidly, there is no deformity of the ribs, the strong lateral abdominal muscles retain their tone and the belly bulges in the centre. It retains this shape whatever the position in which the patient lies. More commonly the fluid accumulates slowly and then the costal cartilages are splayed out, the flanks are distended and droop over the side of the patient like the belly of a frog and the belly falls to the side on which the patient lies. The umbilicus pouts and the fluid descends into hernial sacs if these are present. Ulceration and rupture have occurred at these situations. The skin is thin and tense and striæ appear. The abdomen is elastic on palpation. On tapping it with the hand a fluctuation wave passes across the fluid to the other side of the abdomen. Palpation is difficult if there is a large amount of fluid. It is best carried out by suddenly dipping the fingers into the abdomen as in ballotting for the fœtal parts. In this way enlargement of the liver and spleen or the presence of a tumour may be recognised. On percussion of the abdomen there is dullness in the flanks and below the umbilicus, with a crescentic upper border. The intestines float up to the central and upper parts of the abdomen which are resonant. The dullness shifts with the position of the patient.

One to two litres of fluid must be present in the abdomen for physical signs to be elicited. In a small ascites fluctuation may be felt if the two hands are placed in close proximity and one hand is suddenly depressed. Fluid may also be recognised by vaginal or rectal examination, or by percussion in the knee-elbow position. A large ascites amounts to 15 to 20 litres, and usually produces œdema of the feet by compression of the inferior vena cava. A big ovarian cyst may simulate ascites on palpation. Tumours arising from the pelvis behave like the pregnant uterus and come up against the abdominal wall about midway between the umbilicus and the pubes, pushing the intestine up and to the sides, so that the area of dullness has a convex upper border and extends down to the pubes. Above, at the sides of the tumour, and in the flanks, there is resonance. There is no shifting dullness. Vaginal or rectal examination shows that the tumour arises from the pelvis. Broad ligament cysts and tubal swellings give much the same signs on percussion, except that the dullness is usually more lateral and may occupy the iliac fossæ.

The normal peritoneal cavity absorbs fluid with great readiness, and saline solutions, glucose and blood are often injected by this route. It has been calculated that the healthy peritoneum can absorb fluid equalling 3 to 8 per cent. of the body weight in an hour. Water and crystalloids are absorbed by the sub-peritoneal capillary blood vessels, and the more diffusible colloids may pass into the blood stream in this way. Coarser colloids and particulate substances, such as blood and bacteria are absorbed via the diaphragmatic lymphatics into the thoracic duct. The basement membrane, which elsewhere forms a continuous sheet under the surface of the peritoneum, breaks into a fenestrated membrane on the surface of the diaphragm, and particles are able to pass through the fenestrations to reach the lymphatics. They are forced into the lymphatic system by the contractions of the diaphragm and the abdominal muscles. It is thus easy to understand the occurrence of ascites in chronic peritonitis, when the peritoneum is thickened and the diaphragmatic lymphatics are blocked. In cirrhosis the problem is more complicated.

The ascites of cirrhosis is usually attributed to obstruction to the portal blood flow. In uncomplicated cases, the peritoneum is smooth and but little thickened and shows no signs of inflammation. The fluid has the characteristics of a transudate—low specific gravity, little albumen, usually no fibrin, the cells chiefly desquamated endothelium. Operations designed to relieve the portal circulation, such as omentopexy, may cause the ascites to disappear. Ascites occurs in about two-thirds of the cases of sudden thrombosis of the portal vein, disappearing gradually as the collateral circulation developes, and ascites can sometimes be produced in animals by ligation of the portal vein. There can be no doubt of the importance of portal hypertension in the production of ascites in cirrhosis, but there are good reasons for believing that it acts mainly as a predisposing cause, and that, in most instances, an additional factor is present. These reasons, which were

summarised by Hale White (1892) are, that advanced cirrhosis and portal congestion are often found post-mortem without ascites, that there is evidence of a tendency to general dropsy in portal cirrhosis, and that ascites in cirrhosis is usually a terminal event, associated with "a series of symptoms, of which the chief are a general feeling of illness, ascites, swelling of the feet, and finally nervous symptoms, as drowsiness and coma." (Hale White.)

It is not uncommon for œdema of the feet and ankles to occur months and even years before the onset of ascites. I recently treated a patient who "had had fluid about him" for six years, though ascites had only been present for a few months. Such patients often say that if only they could get their kidneys to work, they would be all right. There is, however, no sign of renal disease, the urine is of good concentration and contains no albumen. Evidence of a disturbed water balance is shown by the diminished output of urine, by the absence of the normal variations in the quantity and concentration of the urine at different times of day, and by failure to eliminate ingested water with the same promptitude as in health. The importance of the liver in the normal metabolism of water is also shown by the fact that generalised dropsy may occur in acute yellow atrophy and in toxic jaundice, as in a case reported by Halita.

"A man of 52 years developed jaundice without much change in his general health. Three weeks later œdema of the legs appeared and gradually became generalised. Jaundice persisted with varying intensity and his condition deteriorated. Two months after the beginning of the illness, the abdomen began to increase in size. There were no signs of disease of the heart or the kidneys. He was treated with a milk diet and diuretics, the œdema and the ascites disappeared and the jaundice remitted."

Some degree of ascites is usually present in acute yellow atrophy. The onset of ascites in cirrhosis also is often associated with jaundice, rapid wasting, mental disturbance and other signs of hepatic insufficiency. It is for this reason that ascites is such an ill-omened sign in cirrhosis. In an earlier lecture I explained that it is the hepatic artery which maintains the nutrition of the liver cells in cirrhosis, and this terminal failure usually means that the blood flow from the hepatic artery is being obstructed by the contraction of the scar tissue, a condition for which there can be no remedy. In other cases, there is a toxic hepatitis from intercurrent infection and then recovery may occur, as in a case already mentioned in which jaundice and ascites occurred with pneumonia. The reasons given for the occurrence of ascites in these cases, which are grouped together as the *ictero-ascitic syndrome* are the increase of portal congestion from the swelling of the liver cells and the disorganisation of the liver tissue; the general upset of water metabolism in hepatic insufficiency; and peritoneal irritation, though this last does not convey very much to me.

Hale White emphasised that ascites in cirrhosis is usually a terminal event. The duration of life after it occurs is from six weeks to six months. Patients who return to the wards for repeated tappings over periods of 5, 10 or 15 years, are not suffering from cirrhosis but from chronic peritonitis. This is a condition in which the peritoneum, especially over the liver, the spleen and the diaphragm, is greatly thickened and hyaline. Thick, fibrous, almost cartilaginous plaques of connective tissue encase, compress and distort the organs like confectioner's icing—*Zuckergussleber*. The peritoneum, which may attain a thickness of several centimetres, can be stripped off post-mortem and the underlying organs are very little changed from the normal. Quite rarely cirrhosis also is present, but it now seems as if the frequency with which portal cirrhosis is complicated by either chronic or tuberculous peritonitis was exaggerated by the older authors.

In many cases, the chronic inflammatory thickening is not confined to the peritoneum, but the pericardium and the pleuræ are also involved, a chronic multiple serositis. Usually the lesion is most marked in the pericardium and on both sides of the diaphragm. The pericardium may be calcified. If the pleural and the pericardial sacs are only partially obliterated, fluid is also present in them. The most marked symptom, however, is the ascites. There is no general œdema until the end, when the heart may fail. The disease occurs at all ages. It was formerly considered a very chronic form of tuberculosis, and some cases probably are this. In others, however, one obtains the history of an acute onset—cholelithiasis and pericholecystitis, appendicitis, pericarditis, pneumonia with delayed resolution. These cases are assumed to be a chronic infection by cocci of low virulence, persisting after the acute attack. The situation of the most advanced changes in the pericardium and the diaphragm is explainable by the distribution of the lymphatic channels. Cases with pericarditis are sometimes described as Pick's pericarditic pseudo-cirrhosis, but there is little reason to separate them from the others

In the diagnosis of these cases the length of the history and the number of tappings, which may reach several hundreds, are of the greatest importance. There are no signs of portal congestion or hepatic insufficiency and the digestion is healthy. The liver is smooth. The history of the onset and the presence of adherent pericardium or fibroid lung, will also be of assistance. Treatment is that of ascites as given later.

Tuberculous peritonitis is most common between the ages of 20 and 40. There are signs of free fluid, but the distension is not usually extreme. A mass or masses can often be felt. The omentum may be rolled up, forming a sausage-shaped tumour in the epigastrium, easily mistaken for an enlarged liver. Fever and malaise are present and a primary lesion may be discovered elsewhere. When the intestine is ulcerated, as in the cases secondary to pulmonary tuberculosis, the patient complains of pain in the lower abdomen, aggravated by food. The pain is usually localised in the right lower quadrant, but it may be epigastric and mimic a peptic ulcer. The action of the bowels is irregular. X-ray examination shows that the cæcum cannot be filled, the meal passing on at once instead of undergoing the normal delay there. In women, tuberculosis of the Fallopian tubes should be suspected, especially if there is amenorrhœa, and vaginal examination should be made. Pneumococcal peritonitis occasionally simulates tuberculosis, the diagnosis only being made on tapping. Acute onset with diarrhœa and vomiting or with respiratory symptoms might suggest the diagnosis, but, in general, the treatment is identical.

Tuberculous peritonitis is a serious disease. In hospital cases, which are naturally more severe, there is a hospital mortality of 13 per cent., and in cases subsequently traced, a total mortality of close on 50 per cent. General treatment by rest, diet, fresh air and judicious exposure to sunlight, is essential. Improvement often follows the evacuation of the fluid at exploratory operations. Ordinary tapping does not seem to be anything like so effective, but recently equally good results have been obtained by paracentesis and replacement of the fluid by oxygen, as in the pneumothorax technique. Medical treatment is not successful if there is tuberculosis of the Fallopian tube or the cæcum, and these cases should be referred to the surgeon for early operation.

Malignant disease is important from the point of view of diagnosis and prognosis. Ascites with jaundice usually means cirrhosis or cancer, and pain is more common in cancer. Ascites with irregular enlargement of the liver is due to syphilis or cancer, and the results of treatment will soon decide the diagnosis. A blood-stained ascites is either tuberculous or malignant, and in the latter, a high percentage of endothelial cells or fragments of growth can be found. Unilateral œdema of the leg, vulva or scrotum and the appearance of varicocele also suggest cancer. Pelvic examination is of great value ; a mass may be felt in the pouch of Douglas, or there may be an ovarian tumour, sometimes primary, but more commonly secondary to cancer of the stomach or colon.

I now wish to discuss the treatment of ascites in cirrhosis and portal obstruction. The same methods are applicable to chronic multiple serositis. The patients undoubtedly pass more water when they are at rest, and they should be kept in bed. Carbohydrate should form the bulk of the diet. Fat is not well borne and there is evidence that protein is actually harmful. Ascites occasionally develops in dogs after ligation of the common bile duct. Bollman found that if the animals were kept on a diet of bread, milk and syrup, there was no ascites. If meat was added to the diet, ascites rapidly appeared, disappearing again on returning to the high carbohydrate diet. Patients with ascites are usually emaciated and they must be encouraged to eat as much as possible.

The classical diuretics are of little use here. Two widely different lines of treatment are employed nowadays. The first is the use of salt-free diet and ammonium chloride, the second the use of alkali. Both these treatments produce profound changes in the chemistry of the body fluids, and patients with cirrhosis are often peculiarly intolerant of such changes. They are on the verge of cholæmia, a condition characterised by low blood pressure, stupor, delirium and coma, without any characteristic alterations in the blood, and as similar symptoms may also arise both from salt restriction and from large doses of alkali, it is necessary to keep the closest watch on the patient and to make frequent examinations of the blood and urine. As regards the choice of treatment, the salt-free diet with ammonium chloride, which produces an acidosis, is the most popular, and the one of which I have had more experience. Dr. A. A. Osman advises a preliminary examination of the plasma bicarbonate ; if this shows acidosis, the alkali treatment should be tried and *vice versa*.

As the fluid which accumulates in the abdominal cavity is essentially a saline solution, it seems rational to try and prevent its accumulation by avoiding salt in the diet. No salt foods, such as salt butter, ham, bacon or salt fish, are eaten, and milk is replaced by diluted cream. All food is cooked without salt, being flavoured with pepper, mustard, vinegar, sugar, cheese, etc. Bread is baked at home without salt and no cakes or pastry which contains baking powder are allowed. In this way the intake of salt may be cut down to less than 1.5 gm. per day. In early cases, this treatment acts well, but in advanced cases the ascites accumulates in spite of salt restriction ; salt is withdrawn from the blood and the tissues to form ascitic fluid and the patient developes symptoms of salt-deprivation, nausea and asthenia, which can only be relieved by giving salt by mouth.

Ammonium chloride produces an acidosis and is a powerful diuretic. It is given in doses of 20 grains six times a day. If it does not act, or if the diuresis falls off, the intravenous injection of the mercurial diuretic novasurol, 1 c.c. twice weekly, is combined with it. The xanthine derivatives, diuretin, theocin and euphyllin are also worth trying. Patients will sometimes pass 2 to 5 litres of urine a day on this treatment. If the ascites disappears the drugs are omitted, but the salt-free diet is continued.

In the alkali treatment, alkali is given as a mixture of sodium bicarbonate and potassium citrate, beginning with about 100 grains a day and increasing daily by 50 or 100 grains till diuresis occurs or the patient shows symptoms of excessive dosage. If there is a successful diuresis the alkali can be reduced and the patient maintained œdema-free on a smaller dose. In the early stages the ascites increases, and while it is easy to get alkali to pass into the peritoneal fluid, it is often difficult to get it out.

Even if ascites is cured, there is grave risk of a recurrence, or the patient may recover from ascites and succumb to hæmatemesis or cholæmia. It is always worth making the effort, however, because of the occasional brilliant successes. Sooner or later, tapping becomes necessary in the great majority. The risk of peritoneal infection or erysipelas in these debilitated patients is great. Others become jaundiced and comatose when the fluid is removed. Repeated tapping may produce serous cachexia, a state of weakness induced by the loss of protein in the fluid. In one way or another, these patients slip through your hands and few live to be tapped more than three times. I have not discussed the Talma-Morrison operation, which is falling into disuse. Portal obstruction alone is not the cause of ascites in cirrhosis, and if the patient does not respond to medical treatment, he is not likely to benefit from operation.

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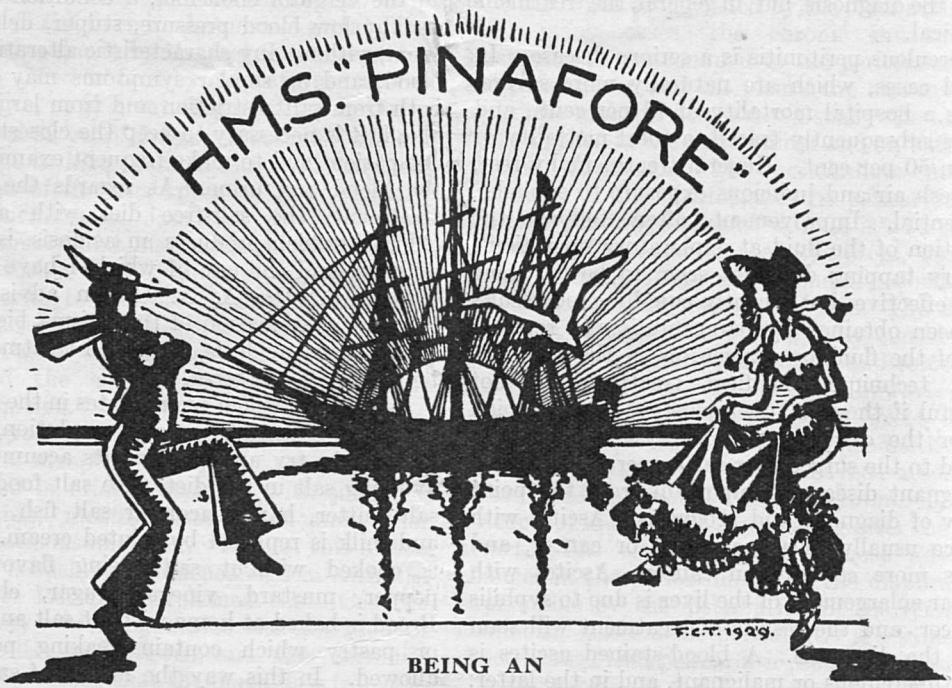
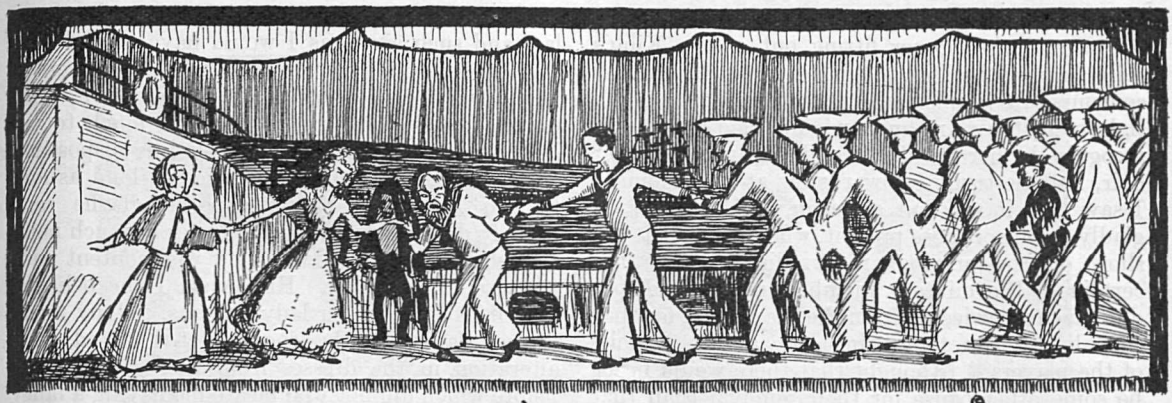


BEING AN

Extract from the Diary of Samuel Peeps, Esq.

November 9th This day, my wife being abed with the rheum, I did put on my half-skirts and a wastecoate with gold buttons, and to the Bridge Coffee House, there to eat my dinner off the worst dish of tripes that ever I did taste, and I in a mighty ill-humour on account of it. But afterwards to the Guildhall Playhouse to hear a play called *H.M.S. Pinafore* which is an old play and a most simple thing but one that I like very well and well acted. By great good fortune I did know a man who gave me two tickets; my oath against plays do not oblige me against this one as I go to it for information's sake. For it is pretty to see how they do rely on me at the Navy Office



GUY'S HOSPITAL
MUSICAL SOCIETY
presents

"How my heart beats!"

"Oh, joy, oh rapture, – unforeseen!"

in all matters concerning the discipline of the sailors and the proper fitting out of the King's ships against the Dutch. In the doorway a great concourse of people, and I did think to catch a sight of Mistress Arethusa, whom I had thought to recognise by her blue habit and the dressing of her hair, but she turning towards me at that moment I saw that it was but a wench, and did pass on gladly. One of those present, who had been at the show on the previous night, did tell me that certain of the military members of the audience did have to be ejected from the Playhouse, for that they had grown too enthusiastic at the exploits of the players. I thought that there would needs be some other cause for their removal than that alone, but did say naught, and so parted and to my seat.

The show opened with Mr. Eason giving the orchestra a conducting through the opening part of Suppé's "Poet and Peasant," and a waltz from "Der Rosenkavalier" of Richard Strauss, which pleased me as much as any musick of that sort, though I had wished to have heard more of the strings and less of the wind instruments. Then Mr. Templeman to the conducting stool, and did raise Sullivan's tunes from the orchestra, to the delight and pleasure of all. The curtain going up, disclosed the quarterdeck of *H.M.S. Pinafore* off Portsmouth, with a great chorus of seafaring men, all hard at work as we at the Navy Office would wish, pulling ropes and swabbing decks and singing cheerfully the while. Particularly I did like the chorus "For he is an Englishman" which is a most excellent song and very bravely sung; yet it was observed by the gentleman who sat next to me that they were addressing a Welshman. Some others of their songs though finely sung had words in them which I did not like and which are most subversive of the good order in His Majesty's Navy, and it put me in a rage to hear that the British tar is a soaring soul which is most untrue and at any rate should be discouraged as much as possible. And as regards this insubordination I do most heartily blame Sir Joseph Porter for his foolish notions concerning the proper use of the English language. Strange the difference in customs then and now, and I do not wonder at the poor success of their methods (of discipline). Very interested in the ship marking the small difference of a quarterdeck then and now. I marvel that Mr. Leffler did allow the sailors to appear so dirty at the beginning of the play, but he had taught them to dance very prettily and afterwards he sent them to put on clean white dresses and also they put on some straw hats which did mightily become them.

Little Buttercup's part pleased me very well. She did sing her songs and dance her dances most excellently. Josephine is a right merry buxsome lass and such a one as I would have waited long to hold her chubby little hand in church, were it not for an act of which more hereafter. Her father Captain Corcoran was a man much to my liking a fine big man of a commanding disposition whose voice was more than twice as loud as any two of his crew. Sir Joseph though he sang bravely did never make one quarter so much noise though for my part I was very well content with the size of his lungs. His cousin Hebe behaved herself like the proper lady she was. Many finely dressed ladies in the chorus yet I found little alteration in the dresses from those I had seen before which did not well please me having a fancy for something more fashionable. Lord! how I do like the sight of a shapely leg! But there were many comely and saucy-eyed wenches and I did observe several to wink and smile on me for which I was glad my wife was not there.

At the Interval I sent the boy up and down to buy oranges but Mr. Conybeare did very kindly send word that they do not now eat oranges in the stalles at the Guildhall and would have us join his party at the below-stage. On the way I did meet with Josephine, she without her bonnet and her hair dressed à la negligence, and very sweet to look upon. Did ask her for a kiss, but she did smack my face and run away, to my great discomfort. And so to the below-stage corridor, where great confluence of gentlemen and fine ladies, much eating and drinking, and all merry. I to sup off coffee and a sweet-cake. Admirable discourse upon Ralph Rackstraw, who is a true hero and a very pretty boy. He does continually look most tender and innocent, and though a manly sort of fellow it is seen from the first that he has something of the quality in him. He sings with passion more after the Italian fashion and has a fine voice. And so to our seats again.

In the second act Josephine did dance and sing divinely, and I had lost my heart to her completely but for the smack on my face which still smarted warmly. It did amaze me to see how Sir Joseph would come a minute late to his part, and one, a surgeon, observing the cause of it did tell his companion, but I could not overhear, to my great discontent. Sir Joseph has reduced the holding of an eyeglass in the eye to a fine art, which I had never thought to see any young man do in this generation. Dick Deadeye did twist his arms and legs around most cleverly and he had a pretty set of teeth which did marvellously become him though they did somewhat impede his speech. Tom Tucker did cough in a manner most gentle and inoffensive, to the great laughter of all. I had thought to take him in the place of my present boy,

THE CAST

Front Row (L. to R.)—Hebe (Miss Telford). Tom Tucker (Mr. Powell). Sir Joseph Porter, K.C.B. (Mr. Chamberlain). Josephine (Miss Gough). Dick Deadeye (Mr. Smithurst). Mrs. Cripps (Miss Etheridge).

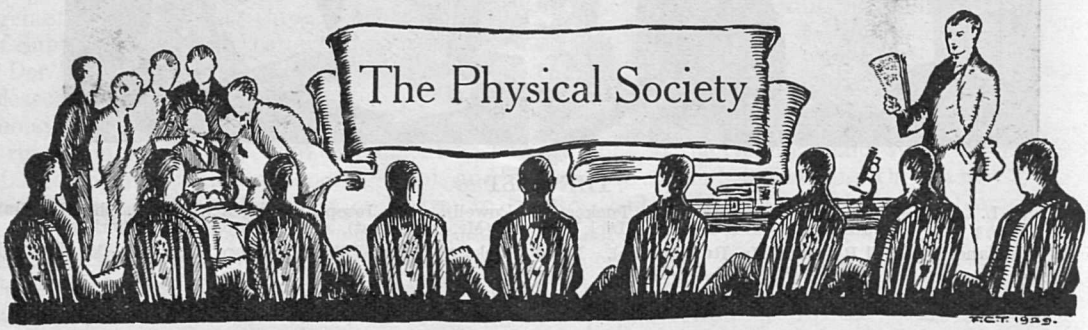
Back Row (Standing)—Bill Bobstay (Mr. Rushbrooke). Ralph Rackstraw (Mr. Williams). Capt. Corcoran (Mr. Barber). Bob Beckett (Mr. Mardon).

THE COMPANY

whose habit of brawling about the house I do resent most beyond anything, but that I feared his cough to be infectious. The sailors' chorus did please me mightily, and I to thinking that I should like to take pains with them, they taking to musick so mighty readily, and musick being the thing of the world that I love most, and all the pleasure almost that I can now take. The marines did also please me, gentlemen in handsome scarlet, the sergeant with a voice like unto a rasp and all with a bearing mighty military. When all did sing together the farewell song I was ready to weep at the sweet sad harmony of it though I did observe that Josephine was not greatly affected by it.

At the close of the act Mr. Eason did make a discourse upon the platform in which he showed us how things really are at the hospital. The nurses he told us do chiefly abandon the sick and throng to the Playhouse, and the surgeons do suddenly drop their knives upon the operating tables and do spend their nights in some Musick house, and other wonders. And so the company mighty merry do throw bunches of flowers at one another until it was nearly midnight.

Home by petrol, to find my wife not very civil, poor wretch! She did preach a tedious sermon upon the words "What went ye out for to see?" showing that she did not believe that the business of the office would keep me so long away from home which I told her was most unjust and jealous of her. So to sleep, very well content that two of the girls have promised to let me hold their hands in church next Sunday.



THE Meeting held on October 31st, with Mr. Bishop in the chair, was again essentially clinical in nature. The cases shown were excellent from the point of view of discussion, but it proved exceedingly difficult to examine them at all properly owing to the large number of members present. The provision of a little pathological distraction certainly helps to relieve the congestion around the cases before meetings. Practically everyone is able to examine slides and pickled specimens quite easily within the brief time provided, whereas usually not more than half of those present are able to go over all the cases. We feel that the pathological side of the Society which has been rather neglected of late, should, in future, receive more attention.

Mr. HARLEY opening the discussion on the first case, briskly described the history and characters of a swelling which had appeared during the last eight months in front of the right ear of an elderly man. The condition had developed from a small ulcer present in the same situation two years ago. Diagnosis and suggestions as to treatment were invited.

W. H. BRADBEER felt that the swelling had all the characteristics of a sebaceous cyst and should be dealt with as such.

W. F. BIGBY, by reason of certain unexpected reports received from the clinical microscopist on tumours removed at "minor ops," thought radical excision far wiser and a malignant condition highly probable.

E. L. GRAFF felt called upon to make the third *obvious* diagnosis of epithelioma. He also bewailed the difficulties in the way of providing proper treatment with radium.

The CHAIRMAN summarised in favour of a basal-celled condition and was all for treatment by radium.

H. N. HARLEY, replying, considered an originally basal-celled condition in this case to have become epitheliomatous. Excision to be of any use would, he pointed out, have to take the form of an extremely elaborate and extensive dissection, an unwise procedure in an old man. Radium could and would be obtained by devious means or as an alternative there would ce a course of deep therapy and nickel bromide.

Mr. McLEAN described a case of generalised glandular enlargement with ulceration of the tonsils in a young man having a definite history of specific infection that had been treated at an early stage and whose Wassermann reaction was now negative. The absence of a blood count he felt to require no apology, as the field of discussion was so obviously increased in consequence.

E. L. GRAFF, having deplored the silence of what he termed "junior members," and assuring them that a fear of inaccuracy or incompetence should be no bar to participation in a discussion, rapidly considered lymphadenoma, only to decide in favour of a tertiary spirochætal condition with deep X-ray as a possible mode of treatment.

N. E. PITT, filled with a desire to observe the pathological "unities," suggested that in view of the short history "lymphosarcoma" was more likely.

Mr. ECKHOFF had seen a similar case before in which tubercle bacillus could be incriminated.

R. E. SMITH considered lymphatic leukæmia to be on the cards in spite of the absence of a palpable spleen. Tertiary syphilis usually produced a generalised glandular enlargement with quite a different distribution.

C. K. SIMPSON discussed a diagnosis of glandular fever only to reject it in favour of lymphadenoma.

P. V. REDDING had only felt the enlargement of glands in neck and groin. His diagnosis was, therefore, faucial sepsis and syphilis.

S. D. McLEAN, by way of reply, again apologised for the lack of hæmatological evidence.

Mr. COHEN spoke with enthusiasm concerning the success of surgical treatment given to a small girl aged six years for a congenital deformity of the hands which he could best describe as being the "exact opposite of clubbed feet."

R. E. SMITH speculated on the cause of the condition in question. There were some points in favour of an atavistic reversion to some prehensile stage as against a purely intra-uterine trauma.

A rather ragged general discussion on the causes of congenital abnormalities followed—the actual case shown being entirely forgotten in a welter of irrelevant backchat about "monkeys" and "monkeying" which the CHAIRMAN found it necessary to curtail.

Mr. ST. JOHN related the history attached to the case of sacro-iliac tumour, also describing the unusual characters of the swelling and giving the results of the investigations so far performed.

The CHAIRMAN confessed that he had derived no help in the matter of making a diagnosis from the numerous X-ray photographs provided. He remembered a similar case in which the tumour proved to be a sarcoma with a hæmorrhage into its substance.

H. N. HARLEY remembered an aberrant head of a humerus in which a sarcoma had been the cause of the displacement.

J. C. HEATHER had seen the swelling in question some weeks ago when it was much harder, although semi-fluctuating, and when there had been an associated œdema of both feet.

S. M. COHEN thought this œdema definite evidence of the malignant nature of the tumour. He was curiously intrigued by the difficulty a patient would have in viewing a swelling on the sacro-iliac portion of his anatomy.

C. K. SIMPSON summed up against sarcoma; there was no brawny œdema nor any evidence of inflammation. He considered the X-ray appearances to support a diagnosis of "cold abscess."

N. E. PITT had indulged in a careful palpation and found marked tenderness over a circumscribed area. He considered a tuberculous condition of the sacro-iliac joint to be responsible.

R. E. SMITH felt that a common or garden hæmatoma ought not to be forgotten.

Mr. ECKHOFF said that aspiration was a procedure which quite frequently failed to yield a specimen of the contents of an abscess and that such negative evidence could never be considered proof of the solid nature of a tumour. In this case, fragments from the lumen of an aspirating needle when sent for section, had been returned as *squamous-celled epithelioma.*

Mr. FRUMIN described the investigations which had led to the discovery of a condition of partial diaphragmatic hernia of the stomach in a patient complaining of symptoms suggesting the presence of a gastric ulcer. More complete radiographic examination had demonstrated the existence of an ulcer crater in the lower of the two sacs into which the stomach was divided.

E. T. CONYBEARE referred to the few similar cases hitherto recorded and collected together to form a short paper included in a recent number of the *Guy's Hospital Reports.* The problem of the treatment of these cases has, so far, proved extremely difficult. Suggestions were invited.

J. C. HEATHER was interested in the results of medical treatment and suggested a lengthy trial of medical measures.

Mr. ECKHOFF was in favour of an attempt at gastro-gastrostomy, a procedure held to be of great value in the treatment of chronic ulcer, and well worth a trial in this case despite the obvious difficulties.

R. E. SMITH required the histories of previous cases in more detail before making any constructive suggestion.

N. E. PITT was doubtful as to the position of the cardia in the case discussed, and regarded the X-ray appearances as suggestive of an œsophageal pouch.

E. T. CONYBEARE deplored the failure of the discussions to elicit any suggestion for an entirely new line of treatment. Although œsophageal pouch had been suggested as a diagnosis, the eradication of the upper intra-thoracic sac, a procedure that might prove of definite benefit, had not been mentioned. The present plan was one of prolonged medical treatment with, possibly, jejunostomy as a final resort.

Mr. GRAFF, in reference to the radiograms of a case of ventral hernia which had been shown earlier in the evening, gave a graphic account of the surgical measures adopted and their somewhat unsatisfactory results.

A now lethargic audience, with one eye on the clock, refused to be drawn into any form or manner of discussion.

PHYSICUS.

The Relationship Between Medicine and Dentistry

A Lecture given by Dr. Boyd S. Gardner (Senior Dental Surgeon to the Mayo Clinic, Rochester, U.S.A.) at Guy's Hospital, November 5th, 1929.

MR. CHAIRMAN and—I am going to say—friends, because an American cannot address an English audience otherwise. It is a great relief to come back to England after being on the Continent two months, where one was not always interested as much as one could wish, for one was forced to give talks through an interpreter. It was interesting, but, as I say, it is a relief to get back so that you can look the other fellow in the eye and believe he understands what you are saying. I have always tried to make my talks easily interesting, not too scientific. I appreciate at the same time that I was once a student. I am still a student and always expect to be. But as an undergraduate I failed to grasp some of the things I wanted to know, because the lecturer or demonstrator was using words I did not understand.

I want to tell you just a few things about the Mayo Clinic. In saying this, I do not want to appear as though we were trying to show off because we are the largest Clinic of its kind in the world. For many years the medical staff of the Mayo Clinic carried on without a dentist, and about eleven years ago I was given an opportunity of suggesting that we should have a dental section. So whatever the dental section has been—if it has been wrong, it has been wrong because I have been wrong; and if it has been right, it has been right because I have been right. It has not been an individual proposition at all. In the Mayo Clinic we have men and women, all of whom are required to work in harmony with others. That is an important thing. We have no private practice; our whole time is put into this work.

We believe that the practice of Dentistry has great possibilities; indeed, that it is an important part of the practice of Medicine. It is more important, I believe, than the average physician believes it to be. You young men starting out on the practice of dentistry—please do not overlook the fact that every time you look into the mouth you must think this: "What is the cause of the condition I see?" We want to instil that idea into the young men of to-day as it was instilled into the young men of my day. We realised that we were trying too much what we could do mechanically to arrest decay of the teeth, instead of looking for the cause and adopting means to remove it; or, in other words, that we were not stressing the prevention of disease as we found it in the mouth. I believe we can truly say that Medicine is entering upon a new era. The time from Hippocrates to Pasteur was of great importance, as we cannot but realise, when we look back upon it. The progress made during that time is wonderfully interesting. Then after Pasteur discovered organisms—from his time to this time, we have been bug-hunters and tried to kill these bugs, if one may use that expression. To-day we are thinking about the resistance of the patient so that the bugs cannot bite us, and here dentistry plays a very leading rôle. If we go to our schools and see those children who have a perfect mouth, invariably they are in health; but where the mouth is very bad in early childhood, invariably you have a child that is not up with the rest. So that more and more we are thinking that the condition of the mouth is an expression of the systemic condition. You men doing research work here, and others in this country and on the Continent and elsewhere, are all thinking, "What is the cause of caries, and what is the relationship of infected teeth to systemic disease?" A patient comes to you, and if on examining him you find there is no decay in his mouth, for how

long can you prevent decay from coming? We can carry on this preventive stage back before the child is born. We come to another stage where we have caries in the teeth. What are you going to do here? You can start to arrest it by different means—by stopping the teeth, correct diet and so on. If in this stage you put in stoppings, and pay no attention to the cause, you are going to be a failure. For that reason many a dentist has lost cases instead of having a growing practice.

We go on to another stage where surgery comes in, where we must extract. I do not know what your percentage in this country is, but in my country 80 per cent. of all the revenue derived from the practice of dentistry is from replacing teeth. Stopping plays a small rôle compared with replacing teeth. What we have been trying to do in the Mayo Clinic is to put surgery in the mouth on the highest plane. We get a man to leave his dentistry chair and go to the hospital and practise by the side of a man who is perhaps taking out an appendix. This, it seems to me, is the foundation of the 80 per cent., and this foundation is important enough to make it impossible for disease to be transmitted from one patient to another by a careless operator, or for disease to be contracted from the patient to his operator merely because he was not as clean in his work as he ought to be.

In order to tell you something of what we are doing we must immediately refer to research work. Dr. Mayo said the Mayo Clinic will carry on as long as it does research work. We are carrying on that in a big way. I am referring now to elective localization. If in certain systemic diseases we take material from the root-end of a tooth, or from around the tooth, and make a culture of it, and inject an animal with this, we can get that animal to have the same disease as the patient has. That is elective localization. It is nothing new when we think of it from a chemical standpoint, or from the standpoint of agriculture. You know that certain seeds will germinate in wet ground and flourish, and that others must have sandy soil. If I give you digitalis, it affects your heart muscle. There you have selective affinity. Those organisms that have been at the root-end of the tooth for a long time have been causing some disease. When these same organisms are put into an animal they will go through the circulation until they find some tissue that they can thrive on, and they will affect the animal in the same way. We have many patients who come to Rochester suffering from a throwing back of the head. In the tonsils or the teeth of these patients we can find organisms which, if injected into a rabbit, will cause the rabbit to twist its head in a similar way. By this means we can always make a dog do as a rabbit does in certain diseases. We find that a dog does not have arthritis like a rabbit. If I want to show something interesting to you from the standpoint of arthritis, I would use the rabbit; from the standpoint of kidney disease I would use the dog or the rabbit; from the standpoint of an eye condition, I would prefer the rabbit to the dog.

We have been anxious to find out some safe way of dealing with pulpless teeth, and we have learned that the safety of these pulpless teeth is dependent on the systemic condition of the patient. If you have a patient under your care with pulpless teeth, do not think that you can by X-raying them determine whether they are safe or not. The real thing to do is to have the patient examined so as to ascertain his systemic condition, for on this, that of his pulpless teeth are dependent.

This is a picture of the colon, the large intestine, of a dog. If we are going to inject for a certain disease we will put animals together, injecting a certain percentage and watching them, and leaving those not injected to prove that there is no possible chance of error. We have been able to produce this disease by infection of the teeth. How long will infection within the teeth last and not produce the disease? We found that dogs will harbour organisms ten months before showing symptoms of colitis. We can improve about 30 per cent. of the patients who come with this disease; the rest are not much good, but we believe that if we got them early enough we could improve them also. We do not maintain that extraction of the teeth is a panacea for all diseases, but it is an important link in the chain of treatment.

Dentists should take the best possible means to make a diagnosis, and in this connection I wish to stress the importance of the use of the X-ray. I call it X-ray because I do not like to say Rontgen ray. If it had not been for an Englishman of the name of Crooks who furnished Rontgen with a vacuum tube, he probably would not have discovered the X-ray.

This is a very interesting picture. If you test this lady you find that she has fractured teeth. Repair has taken place, and there is no discolouration. Suppose this patient comes to you and you find that she has iritis. She came to the Clinic and we X-rayed her. We never select suspicious teeth. We were able to find organisms in those teeth and by injecting them into a rabbit, to produce iritis in it next day. We carried that on for years, saving that culture. We cured this patient of her iritis. We are not going to cure all of them. There may be other things in the body that are factors responsible for dental infection. We are responsible for finding

it and eliminating it. All dentists do not agree that it is necessary to X-ray or test the teeth for vitality; they say we should take them out. I hold that every student should think of his Institution and desire to get the best out of it. But no one man knows all. The older I get the more tolerant I am of other men.

I want to call your attention to something else Mayo dentists have been doing—trying to encourage people to have their teeth out for the cure of arthritis. Arthritis falls into groups which may be classified thus. *Gout*—Anybody who has gout has a form of arthritis. It is a failing of metabolism. This lady was under treatment for gout which was due to the condition of her teeth. The *senile* type of arthritis—We do not know that that is caused from a focus of infection. The *traumatic* group—I might be standing here all day and get aches in my ankles and knees and hips. That is merely traumatic arthritis. I may have to give up my situation for a time, but with rest I recover and am able to go back to my work again. Then, lastly, we have the *infective* type of arthritis, where there is more than one joint involved. If you can eliminate the infection and build the body up by a correct way of living, you can cure a large percentage of these patients. This lady was cured by extracting her teeth and eliminating pyorrhœa. In these cases we do not hope to straighten up the joints, but to allay some of the pain. If in the practice of dentistry you have a patient with arthritis, and if you remember what I have said about it, you can practically do as good as any physician in making a diagnosis, and tell whether you can help the patient or not.

This patient has an injured knee, and you X-ray it and establish the condition and make a diagnosis. Do not think that you can take out suspicious teeth as the cause of the condition. Look at the mouth and say, "This patient has come to me for the best in me, and, in order to be sure, I must be thorough in my examination from that standpoint."

The time comes when we make a report of the findings of the mouth. We test the teeth for vitality. After the patient's physical condition is reported very clearly, he is referred to the Dental Department for a report of the findings. Do not tell the patient all about the mouth condition when you are merely reporting to your physician the findings. To advise is one thing, to diagnose is another.

It behoves the dentist to make the country realise that the health of the individual is the important thing to consider. Your country's people are just as virile as their health will allow. The War proved that they are as virile as those of other countries. To make a comparison I want to refer to Italy. There during the next ten years you are going to see dentistry grow by leaps and bounds. Mussolini has Italy under his thumb. I was present at the Italian Congress in Rome about three weeks ago, and I stood on the ground where the new Infirmary is going to be built, and this is what Mussolini said there: "If I encourage reproduction and enforce education, in another generation I will have a new Italy. But we lack one thing, and that is, *health*." He is a man with a large family. His private dentist teaches children dentistry in the Roman College, and the Duce's children have no caries. Mrs. Mussolini has a perfect mouth, and he himself has a very good mouth also. Mussolini realises that the mouth condition is an indicator of the condition of the rest of the body, and that if you can keep the child's mouth healthy, and enforce education, and have an increasing population, then when the old people die off you are going to bring back Italy to what it was at one time. There is food for thought in that. Watch Italy in the next ten years.

This is the way in which we tabulate the vitality test. We take into consideration that the teeth are different anatomically. There are your molars, your bicuspids or premolars, your cuspids and your incisors. Bear in mind that the lower incisors cannot stand caries as the upper do. Testing the teeth is imperative. If you have one tooth with more than one root, one of the roots may get gangrenous. I have not time to go over this in detail.

This is a post-operative sheet. If any of you students or graduate men are interested in the sheets we use, and if you write to us I will send you one, and you can use it as you want to. We have problems and we should like to have help from you, and we should like you to feel that you can call on us for any help. We want information, we want help for humanity. The extraction of teeth emphasises this one point—that you should study what you leave more than what you take out. What you remove from the mouth is of interest anatomically; but the patient is interested in how you leave the mouth, and whether you have got all the roots out or not. I am proud to say that in America $33\frac{1}{3}$ per cent. of the patients who have had dentistry have at least one unextracted tooth. Supposing that any of those forming that percentage have had teeth extracted with the object of curing some disease, how hopeless is the prospect. Therefore, remember always to use X-ray both before and after you extract, and so encourage better ways and

means of extracting teeth. Learn to take hold of the tooth so as not to break it off. We have every reason to advertise ways and means of putting teeth in a condition where the forceps can deliver them. As to the safest and surest way of preparing teeth for their extraction, whether it be an impacted or other form of difficult tooth, bear in mind that we still extract many teeth in the old way, and for other difficult teeth we advertise new ways and means. No tooth can be made to enlarge its own socket. The socket ought to be enlarged before the forceps are applied. I just leave these few ideas with you. I only wish I could be here for a week and we could sit down and do these extractions in different ways and compare them. I am sure I should then take away new ideas, and I might leave some. But that favour is not given me by my Institution, and so I cannot do it. But there are some people in this audience who have been with us, as well as having visited other American Institutions. I know two such in this audience, and I believe we are quite agreed as to the treatment needed in surgery of the mouth. If you tabulate the conditions post-operatively as pain, swelling, temperature, elimination, dressings, and so forth, and find in the patient a feeling that you have taken everything out, as shown by the X-ray, you have taken a step forward in the right direction. The X-ray showing you that all the tooth or all the teeth have been taken out is all-important both to the patient and to the operator.

There you have got the perfect mouth. Never overlook the fact that people like to be told their mouth is perfect. But how are you going to know a mouth is perfect? Not by merely glancing at or feeling the teeth; because I could show you thousands of cases where there are deciduous roots between the premolars.

This patient had his X-ray taken and was just about to go out, thinking he was alright, when we found something bad that he did not know.

Of all people in the world, those who are most deserving of dental examinaton are they who think their teeth are out. This is an impacted bi-cuspid that has given this poor old lady pain. Because she had a denture no one suspected the cause until she came to us and we X-rayed her mouth.

In this case the dentist pulled a bad tooth that he saw. He did not have X-ray eyes to see what was there, or he would have adopted different methods.

I see my time is up.

Correspondence

An Essex Pilgrimage

To the Editor of the GAZETTE

SIR,—Although I have been a resident of Essex for many years, I must confess, to my shame, that, till the other day, I had never visited the grave of the immortal Harvey at Hempstead.

Essex is the most underrated of the home counties, and the country round Saffron Walden, Finchingfield and the Hedinghams is simply delightful and unspoilt. Hempstead is 47 miles from London, and 7 from Saffron Walden.

Harvey, Discoverer of the Circulation of the Blood, died in 1657, and his remains were removed from the vault under the church, and placed in a marble sarcophagus, presented by the Royal College of Physicians in 1883.

There is also a bust and monument in the church to his memory, with a Latin inscription, lauding his achievements and his great philanthropy. The following translation of the epitaph is submitted by the Vicar of Hempstead, Rev. T. P. Conyers Barker, who, by the way, makes a delightful cicerone :—

"*WILLIAM HARVEY—*
in veneration of whose name all the Universities rise up—who after many thousands of years first discovered the constant motion of the blood—who alone of all men freed from false philosophy the origin and generation of animal life—to whom humanity is indebted in that he made known to it the very art of Medicine—chief and dearly-loved physician to their serene Majesties James and Charles, Kings of Britain—zealous and happily successful professor of Anatomy and Surgery of the College of Physicians, London, for whom he founded a famous library, given, and endowed, with his patrimony. This man of learning, after his triumphal labours in study, health-giving practice, and discovery, the erecting of many statues at home and abroad, and the encompassing of the whole sphere of medical art and science, died without issue, the third day of June, in the year of Health 1657, *and in the eightieth year of his age—full of years and renown.*"

In 1882 the Tower of the ancient gothic church unfortunately fell, demolishing in its ruin one-third of the church. The nave was restored at considerable cost, and the interior is now a pleasing structure. The tower is desolate. In the churchyard, piled together, are tons of stone, awaiting

rebuilding when the means shall be provided. Harvey's great generosity during his lifetime, and his transmission to posterity of so incalculably great a blessing as his investigations upon the structure and functions of the heart, and the circulation of the blood, which he established, and demonstrated with complete satisfaction to the Medical World of his day, should be an inspiration impelling the immediate provision of what is needed, for the rebuilding of the tower, and suitable maintenance of the fabric of this ancient edifice. For 47 years these stones have been "crying out" in their dereliction. The jubilee of their humiliation might well be, and could be, commemorated by their reinstatement. The custodian of the tomb of the "immortal Harvey" (the parson of a poor agricultural parish) ought not to be left, often at his wits end to know where, or how, to raise the means for repairing the ravages upon the old church by the elements of nature, or the keeping of its surroundings in a condition of, to say the least, decency and respectability. Damage recently caused by high winds can only be repaired if left to local effort by such means as the proceeds of Whist Drives and Dances; and that barely adequate. Harvey is deserving of better than that. The church will need re-roofing ere long. It is expectantly hoped that those acquainted with these facts will respond forthwith and furnish each a portion (large or small) of what is needed.

Subscriptions should be sent to Barclay's Bank, Limited, Saffron Walden, Essex, or to the Vicar of Hempstead, Saffron Walden, Essex, in either case made payable to the "Harvey Memorial Fund."

For the rebuilding of the Tower £1,000 is now available, subscribed in response to various appeals, and by visitors to Hempstead, including many of the medical profession. A further £1,000 speedily contributed, with £500 for structural repairs to the church itself, would make it possible to begin work, and might move other admirers of Harvey to complete an edifice worthy of the honour of that eminent World-Benefactor—one of England's greatest physicians.

Yours, etc.,

Milton House, S. G. F.
Grays, Essex.

Guy's Teaching

To the Editor of the GAZETTE

SIR,—I have read S. A.'s article in the GAZETTE of November 2nd with interest. There is, however, one item I should like to deprecate. He says "I wish I knew more . . . . of the merits of the various artificial foods." May I suggest that he probably knows quite enough and that the real lack of knowledge on the part of most of us is how to secure the correct *natural* feeding of a baby for the proper time. Artificial feeding is still too often the first resort in difficulties and it should be the last.

Yours, etc.,

V. F. SOOTHILL.

Public Health Department,
Churchman House,
68, St. Giles Street, Norwich.

Sport

Rugby

Guy's v. Old Milhillians

AT Headstone Lane on Saturday, October 19th, Guy's after enjoying the major portion of the game, had to admit defeat by a placed goal and two tries (11 points) to nil.

Without belittling the success of the home side, it must be said that Guy's were distinctly unlucky to lose, as on at least three or four occasions they were within an ace of scoring and the O.M.'s points were obtained by breakaways where speed proved the predominant factor.

Throughout the whole of the first half, Guy's held the upper hand and were attacking continuously, but somehow they appeared to lack that finish and extra speed to carry them through.

Soon after the kick-off, Hogbin found touch near the corner flag, and immediately following a round of passing between Atkins and Robinson, the O.M.'s were penalised for off-side, but the kick was too far out for Hogbin to score.

Guy's kept up the pressure and in quick succession were awarded two penalties, but nothing resulted. Eventually, the O.M.'s pack made a fine raid to our goal line and in a race for the ball Lewis touched down. After Carris had missed a penalty goal from an easy position, Thomas followed up a long punt which the home side's back failed to gather, but Spong secured in the melee that followed and cleared his lines. An individual effort by Hale-Monro nearly resulted in a score, but he was earthed just before reaching the line. Our backs were carefully marked and little progress could be made—eventually Benham broke through

our centres and scored in an easy position for Spong to convert. Following a scrum, Howell running round the blind side was nearly through, but the O.M.'s retaliated with a raid to our line which Hale-Monro checked after securing a mark.

The second half opened with the home side attacking our line, but Hogbin brought relief with an excellent run to their 25. Our three's participated in several rounds of passing, but no headway could be made owing to bad passing or failure to accept passes at the critical time. Following a splendid effort by Popplewell, Thomas was nearly over and the home side touched down. Robinson then distinguished himself with a fine tackle when Hume was nearly through, but soon afterwards Spong got away and gave to Carris who crossed easily for a try which he failed to convert after hitting the post. Two minutes later, Spong again cut through on his own and scored another unconverted try. Guy's were awarded a penalty in an easy position, but Hogbin missed a sitter. For a time, Guy's pressed the O.M.'s heavily, but despite the great efforts of Kunovsky, Lashmore and Hogbin, little progress could be made against an excellent defence.

In the closing stages Collis missed an easy chance to increase the home side's lead and Hume knocked on in the corner when he had the line at his mercy.

Guy's Team—T. A. Hale-Monro ; T. G. Robinson, T. Fichardt, H. J. B. Atkins, D. F. Ryan ; I. K. Thomas, J. Howell ; J. R. F. Popplewell, C. D. Malone, R. A. P. Hogbin, G. F. Lashmore, A. R. Clarke, D. S. Clogg, J. Kunovsky, J. S. Batchelor.

Guy's v. Harlequins

AT Twickenham on Saturday, October 26th, the Harlequins fielded a very strong side against Guy's and the team contained many internationals. In fact, practically the whole of their back division had represented England in one or more of the International matches last year.

After a bright, open and interesting match, Guy's had to admit defeat by three placed goals and 1 try (18 points) to a try (3 points).

The Guy's pack played brilliantly throughout, and more than held their own in the hard scrummaging and in the open. However, the Quins' halves were in excellent form and gave their three's many opportunities of showing their ability.

During the opening few minutes, Guy's pressed the Quins in their 25, and it appeared as though Guy's would score, but in the excitement Guy's were penalised for offside and Hubbard found touch at midfield. The Quins three's participated in a bout of passing and the ball eventually reached Gibbs, who cleverly evading Johnson on the touch line, made a splendid run half the length of the field and scored behind the posts for Hubbard to convert. The Quins continued to enjoy the better of the match, and after two or three rounds of passing, Laird found touch in our 25. The Guy's forwards retaliated wth a fine rush to their 25 and Atkins found touch after Hogbin had made an excellent individual dribble. Our three's got going near the Quins goal line and Guy's were all but over when Wakefield relieved at the critical moment. Eventually, the ball reached Reeve, who made a great run on the wing and scored easily for Hubbard to again add the extra points.

Following this reverse, Guy's set up a hot attack, but no further scoring resulted before the interval and the home side crossed over leading by 10 points to nil.

The resumption saw Guy's attacking furiously, and from a scrum in front of the Quins' posts, Thomas secured and nearly dropped a goal. A second or so later, Malone obtained the ball in the loose and hurled himself over the line for a try, but Hogbin hit the upright in trying to convert. Guy's continued to have the best of the arguments and were actually pressing in the Quins' 25 when Rice-Evans intercepted a pass near the goal line and after running the length of the field scored a fine try which was not converted. In another spasmodic raid, Wakefield accepted a cross-kick by Gibbs and bullocked his way over the line for Hubbard to successfully negotiate the cross-kick.

From a Guy's point of view, the result was most disappointing as they certainly had as much of the play as their opponents, but the Harlequins' three's were much faster than our own and when the opportunities came their way they made no mistake and left our defence standing on each occasion.

Guy's Team—T. A. Hale-Monro ; A. G. Johnson, T. Fichardt, H. J. B. Atkins, A. J. D. Lewis ; I. K. Thomas, J. Howell ; J. R. F. Popplewell, C. D. Malone, R. A. P. Hogbin, T. Morgan, J. S. Batchelor, D. S. Clogg, J. Kunovsky, G. F. Lashmore.

Guy's v. Northampton

AT Northampton on Saturday, November 2nd, Guy's were defeated by the home side by a dropped goal, a penalty goal and two tries (12 points) to nil.

Guy's enjoyed just as much of the game as their opponents, and with a certain amount of luck would have scored on at least three occasions.

It was a fine open game from start to finish with the exchanges fairly even.

Owing to injuries, I. K. Thomas appeared at scrum half, J. E. Giesen, a freshman from New Zealand, secured his place at fly-half and L. Wailer, who had represented Durham, came in at full-back. Both the new men gave a good account of themselves, but the former was unfortunate in putting his shoulder out during a heavy tackle.

Early in the first half, Fichardt narrowly missed dropping a goal, but soon after, Harris gave the home side the lead with a long-range penalty kick. Lindsay, who had played a fine game for the Cobblers, was eventually rewarded with a try. Receiving from 30 yards out he bored his way through the Hospital defence and scored an excellent try which Vaughan failed to convert. Both sets of forwards made desperate efforts to break through, but the defence on each side was sound.

Exciting play followed, with the ball travelling from one end of the field to the other, and just before half-time, Guy's were robbed of the ball on the line.

In the second half, Haslemere dropped a fine goal for Northampton after Wailer had just missed a similar attempt for Guy's. Towards the end Jones scored another try for Northampton and Milward was carried off injured.

Guy's Team—L. Wailer; T. G. Robinson, T. Fichardt, H. J. B. Atkins, A. J. D. Lewis; I. K. Thomas, J. E. Giesen, J. R. F. Popplewell, C. D. Malone, R. A. P. Hogbin, T. Morgan, J. S. Batchelor, A. R. Clarke, J. Kunovsky, G. F. Lashmore.

Guy's v. Cambridge University

ON Wednesday, November 6th, the Hospital visited Cambridge and were defeated by the University by two placed goals, a penalty goal and two tries (19 points) to a penalty goal (3 points).

Cambridge were not quite at full strength as their Captain, Guy Morgan, and Bowcott were both on the injured list.

The weather was simply wretched and a steady rain throughout the game made everything soft and greasy.

However, Cambridge adapted themselves to the conditions far quicker than Guy's and handled the ball extraordinarily well. Tallent was in excellent form for the Varsity and was directly responsible for most of their points. Guy's had a bad time during the second fifteen minutes of the game when Cambridge piled up a lead of 16 points, but thereafter Guy's pulled themselves together and although they kept the home side on the defensive for the major portion of the second half, their only reward was a penalty kick which Hogbin landed just before the finish.

For the first few minutes Guy's pressed, but Cambridge gradually worked their way to midfield, and after an excellent round of passing, Smeddle secured the touch down after an exciting race with Wailer and Lewis. Soon after, Howell was penalised and Waters kicked a penalty goal, and a minute or two later, Tallent made a great run to the Guy's line to increase the Varsity's lead with a try which Waters converted. Cambridge continued to dominate the game, and after Hopkins had slipped round the blind side of the scrum to the goal line, Tallent accepted and scored another try for Waters to add the extra points.

The second half was barely two minutes old when Tallent made a wonderful individual run, in which he baffled our defence completely and scored his third try of the afternoon. Stung by this reverse, Guy's retaliated with several fine forward rushes and for some time the Varsity defence was severely tested. Popplewell damaged his arm and had to retire to the wing, but his loss only inspired the forwards to greater heights, and they more than held their own, although it was noticed that one or two of the Cambridge forwards were limping rather badly. However, the Cambridge defence held out until just before no-side when Guy's were awarded a penalty for Hogbin to kick a penalty goal.

Guy's Team—L. Wailer; T. G. Robinson, T. Fichardt, H. J. B. Atkins, A. J. D. Lewis; I. K. Thomas, J. Howell; J. R. F. Popplewell, C. D. Malone, R. A. P. Hogbin, T. Morgan, J. S. Batchelor, D. S. Clogg, J. Kunovsky, G. F. Lashmore.

Boxing

Novices' Competitions

IT is with great pleasure that we note the phenomenal increase in the activities of the Boxing Club this season. It was our privilege on the 29th October to witness the Novices' Competitions of the Club, which were held in the Pavy Gymnasium. The record number of entries for the Competitions was due solely to the efforts of the Secretary, Mr. A. State. The value of his work is apparent from the fact that the Cups, so kindly presented three years ago by Mr. Ormond as prizes for proposed similar Competitions, could not be contested for until this year, owing to insufficient entries.

The talent displayed in the preliminary bouts was remarkable, when one considers that most of the contestants were new to boxing at the hospital. The entrants were restricted to those who had not won any representative competition. Mr. State and Mr. C. R. Stone officiated as Referee and Timekeeper respectively, whilst the duties of

Second were admirably performed by Alf Hewitt and L. Rimwood. The bouts were limited to two rounds duration with minute intervals.

There were technical knock-outs in two bouts only, those between R. A. Johnson and L. Merril, and B. L. E. Wong and C. N. Jones. The outstanding match of the evening was between J. F. Paterson and J. W. Mansie, whilst very even fights were witnessed between H. R. Stubbs and C. S. Pitt, and F. A. Rogers and W. P. Stamm.

The bouts were as follows :—

Bout 1.—Between L. B. Holmes and G. N. Miller, provided some sparkling boxing, Holmes gaining the decision on account of his well-timed and damaging punches.

Bout 2.—Between R. A. Johnson and L. Merril, a technical knock-out resulting, Johnson's long reach and better science making him more than a match for his plucky opponent.

Bout 3.—Between C. S. Pitt and H. R. Stubbs, the latter was successful in a fiercely fought contest.

Bout 4.—Between F. A. Rogers and W. P. Stamm was very even, Rogers gaining a narrow verdict after a drawn first round.

Bout 5.—Between C. N. Jones and B. L. E. Wong was stopped early in the first round, owing to the obviously superior boxing skill of the latter.

Bout 6.—Between J. W. Rhys and C. J. Blumental, Rhys proving the winner of an interesting and well-fought issue.

Bout 7 —This took place between J. F. Paterson and J. W. Mansie, and provided by far the most interesting spectacle of the evening. The contestants both seemed regardless of the punishment that they received. The Referee gave the decision in favour of Paterson, because of his more frequent attacks ; but after due consideration and with the agreement of the competitors, it was decided that the fight should be restaged on the night of the finals. This decision was much applauded by the large audience present.

There was a considerably larger audience witnessing the final events the following week. It was then learned that F. A. Rogers who had qualified for the Final Competitions, had met with a severe accident. We wish him a speedy recovery from his misfortune. The Competitions were, therefore, restricted to three—Fly Weights, Featherweights and Middleweights.

Fly Weights—J. W. Mansie and J. F. Paterson.

Round 1.—Was in Paterson's favour, although there was hardly anything in the fight. The audience was persistently applauding their constant and savage attacks, a repetition of which was evident in the second round.

Round 2.—The first part of the second round saw Paterson gaining points on account of his comparatively better condition. This, however, could not be said of the latter part of the fight, when both were nearly exhausted by the vigorous methods employed.

As on the previous occasion, the match was awarded to Paterson, but the fight was not less thrilling ; and if these two continue to box in this way, we are safe in predicting their futures as distinctly good.

Featherweights—L. B. Holmes and B. L. E. Wong.

It is indeed unfortunate that this fight, which was destined to be of uneven character, should have contained an early knock-out. The match was not half-a-minute old, when Evan Wong. by dint of careful manœvreing, landed an uppercut which could only lead to one result. Of the winner, one can say that he is a boxer of real class ; indeed, but for his bad luck in many Competitions, he would not have been eligible for this one. Of the loser, we can only say that he has the pluck, the experience will come.

Middleweights—H. R. Stubbs and J. W. Rhys.

This bout was a pure fight from beginning to end, the first round was easily Stubbs', the second not less easily won, was given to Rhys. Stubbs was given a narrow verdict, but both should be congratulated upon the pluck and fierceness of their display.

All those who were spectators at the above Competitions, and any others, will be welcomed into the Club. Particulars from A. State, Secretary, or any member.

Rowing

THE Annual General Meeting of the above Club was held on October 15th, with Mr. R. Davies-Colley in the Chair. The following officers were elected for the season 1929–30 :—

President—R. Davies-Colley, Esq., C.M.G., M.Ch.

Vice-Presidents—Herbert French, Esq., M.D. ; A. S. McNair, Esq., M.B., B.Ch. ; W. M. Mollison, Esq., M.Ch. ; J. H. Ryffel, Esq., M.B., B.Ch.

Honorary Vice-President and Coach—Hylton Cleaver, Esq.

Captain—G. G. Ellis.

Hon. Secretary—R. J. Wheatley.

Committee—Messrs. E. B. Carpenter, G. A. Dingemans, G. Loader, P. V. Reading, F. H. Stevenson, W. J. Wheatley.

The above Club is affiliated to the London Rowing Club and has the use of the Club's premises, boats, etc. The London Rowing Club are allowed the services of any Guy's members willing to row for them.

The Club has a light-eight and oars of its own, and has an ambitious programme before it :—

The Head of the River Championship.

The Allom Cup (University of London).

The Inter-Hospital Races (Senior VIII and and Junior IV), and a fixture with the Imperial College of Science.

New members, who must be members of the Clubs' Union, will be welcomed and helped by the captain, secretary or any member of the committee.

Hockey

United Hospitals' Hockey Club

THE Annual Meeting was held at St. Thomas's on Friday, November 8th. L. H. B. Light (St. Thomas's) was elected Captain, and H. L. Hodgkinson (St. Bart.'s), Hon. Secretary, for the present season.

The first fixture is versus Cambridge University Wanderers on November 21st.

The following rule was proposed and adopted for present season :—

"That any man is eligible to represent his Hospital in Inter-Hospital Cup Ties for any number of years until qualified, and for a maximum of two years after qualification if holding a *bona fide* position at Hospital."

Guy's v. R.M.A. Woolwich

THE First Eleven played the R.M.A. Woolwich, on our ground on October 30th. Both sides were well represented and Guy's won decisively by 11 goals to 1 goal.

Guy's were superior in every position, and the forward line—notably improved since the reappearance in the side of F. E. Camps—especially distinguished itself. Each member of the forward line scored: Tilleke (2), Lyne (3), Camps (2), Payne (2), and Clarke (2). The eleventh goal was obtained by Sykes.

No description of the game will be attempted, as it would become monotonous, but everyone playing appreciated this victory to the full, and it augurs well for the success of the team.

The Hospital was represented by J. B. Schofield; G. N. Carrell, F. R. Hayward, T. F. Todd, R. A. Sykes, C. J. Hartley; R. O. F. Tilleke, H. O. Lyne (Captain), F. E. Camps, R. V. Payne, and C. A. Clarke.

On December 4th the Hospital will play the Oxford University Occasionals at Ealing (Ealing C.C. Ground). We should greatly appreciate the presence of Hospital supporters, and we can assure those who make the journey to Ealing that they will see some stimulating hockey, besides materially helping the side.

Swimming

ON Monday, October 7th, the various swimming teams of the Women's Departments competed for Miss Hogg's Cup, in the Baths of the Nurses' Home.

There was a large gathering of supporters, and, owing to the increased viewing space provided by the balcony on the farther side of the Baths, everyone watched in comfort and there was no crush.

Miss Arnold, of the Massage Department, brought a troupe of swimmers to entertain us with obstacle races, diving, marvellous feats in the water and different styles of swimming.

The race for the Cup took place between the following teams :—

The Massage Department, Electrical Department, Administrative Department, and Nursing Staff.

The Cup was won by the Massage Team, after a strenuous race, the Electrical Team coming in second.

Colonel Fortescue was introduced to the gathering by the Matron, and he presented the Cup to the Massage Team.

Everyone much regretted that Miss Hogg was unable to be present this year.

Hospital Information, etc.

Change of Address

S. R. Trick, M.B., B.S. (Lond.), 229, Thorbury Avenue, Thornton Heath, Surrey.

St. George B. Delisle Gray, 11, Second Avenue, Hove, Sussex. 'Phone, Hove 4517.

F. T. Harrington, 43, Alma Place, North Shields and 18, Jesmond Road, Newcastle.

Births

POWELL.—On October 16th, 1929, to Ethel Florence, wife of H. J. Powell, L.D.S., R.C.S. Eng., 237, Upper Richmond Road—a daughter.

ROBERTS.—On October 26th, 1929, to Katie, the wife of E. Shelton-Roberts, J.P., M.R.C.S., L.R.C.P., at Gwyddfor, Pennygroes—a son.

Marriage

TRICK—GIBBS.—On October 30th, 1929, at the Congregational Church, Stratford-on-Avon, S. R. Trick, M.B., B.S. (Lond.), to Edith Mary, only daughter of Mr. and Mrs. Walter C. Gibbs, of Hardwicke, Stratford-on-Avon.

EDS. {E. T. C. / J. B. B.

GUY'S HOSPITAL GAZETTE

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PASSIM

KINGSLEY once wrote, "The first habit for a boy to learn after obedience and morality is a habit of observation." This great habit is often wrongly termed a gift; no doubt to some men, especially the naturally curious, it is almost second nature to notice this, that, and everything; but this is surely because the habit has been learned young. Only too often have we mentally kicked ourselves since we entered this Hospital for failing to notice little, but important, facts about our patients, and we count a medical student most fortunate who possesses this habit well-developed. Elsewhere in this number we find a general practitioner referring to "that increasingly rare faculty, the power of observation"; if this be so, it is to be deplored; in any event, the rise of laboratory and allied investigations makes it a real danger that the keen edge of clinical observation should be kept less sharp than formerly.

In assessing the factors that have made medical men great among the ranks of their profession, there is probably none of more importance than this capacity of observing accurately. Such men astonish us by their shrewd observation and ready comparison with cases of their previous experience, often of very many years ago indeed; we then realise the benefit of accurate observation in the first place with its indelible imprint upon the memory. There is a difference too between seeing as much as possible and learning a great deal from what is seen, the latter entails the exercise of critical analysis of what is noted.

In this connection we are reminded of words heard in our physiology course to the effect that it would be time well spent if in place of six months classes in physiology, this time were spent in the country cultivating the habit of keeping our eyes open. We remember at the time how this appealed to us, but now we would think there was wisdom too in these words.

FROM the point of view of Guy's in general, there is no activity of the Ladies' Association more popular than the annual Court Room Dances, which took place this year on November 20th and 21st. The Ladies' Association is to be congratulated on infusing just exactly the right spirit into these functions, a feat which we consider to be primarily due to the selection of the Committee. The fact that dances take place within Guy's lends just the right air of homeliness, and that they stop at midnight entices even the most timid dance-goer—like ourselves.

The band is to be congratulated on "getting together" so well, and on playing plenty of what we consider to be the dance most worth dancing—the waltz.

There was only one regrettable and obvious incongruity, and that was the way in which the Staff eclipsed the more junior members of the Hospital in the technical details of the dancing itself. Personally, we received the most valuable instruction in just how to do the "six-eight," from watching those from whom we had never hoped to learn more than the ideal treatment of gastric ulcer.

WE understand that the portrait of Mr. Hopson, to which we referred in our last issue, is one of the two painted by Mr. Frank O. Salisbury and presented by the past and present students of the Dental School to Mr. Hopson in 1920. The other portrait, with those of other past presidents, hangs on the wall of the board room of the British Dental Association in Russell Square.

We note that on Wednesday, 4th December, kick-off at 2.30 p.m., the Borough Market will play the Hospital at Soccer on the Hospital ground at Honor Oak Park. Twice during recent years has this match been played, leaving honours even, while by this means more than £100 has been raised among the men of the Borough Market for the benefit of the Hospital. The proceeds of the forthcoming game will be given to the Thomas Haynes Memorial Fund for the purpose of endowing a bed. It is hoped that sufficient money will be obtained to complete the necessary sum.

We would remind readers that in association with the Landon Tea to the Borough children on Christmas Day, there is a large Christmas Tree loaded with presents for the children. For this purpose gifts of dolls and other toys would be welcome; these should be sent to Sister Out-Patients, Guy's Hospital, S.E.1.

Messrs. Ash & Co. have prepared Christmas Cards, as has been their custom; all proceeds of sale will be devoted to the Hospital funds. These cards can be obtained in the Wills Library, the Counting House, or Matron's Office.

On some Principles underlying Treatment of Fractures of the Lower Limb

A Clinical Lecture delivered at Guy's Hospital, October 31st, 1929, by C. H. Fagge, Esq., F.R.C.S.

Gentlemen,—I am afraid you will find my remarks to-day very elementary, but the subject was suggested to me as suitable for to-day's lecture, and in the time at my disposal, I will do my best.

We are too inclined to regard a fracture of any bone as an isolated bone injury; we forget that in no position can a bone be injured without considerable damage to the soft parts around. In some cases, of course, this is very considerable, and, from the point of view of importance and severity, entirely outweighs the bone injury. And when we see, as can be done at any open operation on a recent fracture, the extent of infiltration with blood of all the soft parts round a broken bone, we realise that it is going to take some considerable time for all this effused blood to be absorbed. In this connection, those of you who have had to treat fractures in the back surgery will probably remember that the commonest complaint of a patient recovering from a fracture of the lower limb, is that his foot swells, and this swelling of the foot will go on for several weeks, in spite of treatment by massage, etc. Therefore, treatment must include not only the treatment of the fracture, but the treatment of the tissues; because the ultimate aim of the surgeon is not only to restore the shape of the bone, as far as possible, but also to restore the function of the limb. It is quite easy, in the treatment of any fracture, to be satisfied with what one might call architectural restoration, and to leave function entirely alone, whereas function is infinitely more important. Those who decry the insistence of Lane and his followers upon the importance of anatomical restitution suggest—and there may be some truth in the suggestion—that more importance is attached to anatomical reposition than to restoration of function. But function depends on, and is closely related to, anatomical perfection; there is no need to argue this at the present time. From the year 1912, when the British Medical Association Fracture Committee reported on this question, there have been, in several other countries, fracture investigations, and they have all arrived at the same conclusion:—that the best way to ensure a good functional result in treating a fracture is to get a good anatomical result. "It is perfectly true," you say, "but I, or my brother, or my friend, or I know of a man, or somebody spoke to somebody's sister about somebody who had a horrible looking leg or arm, and he played hockey, or danced, or did something wonderful." One cannot generalise from individual cases; and, taken as a general principle, the better the anatomical result of your treatment, the better will be the function.

And this is important in another relation: incorrect architecture means that the surfaces of the adjacent joint are subjected to abnormal pressures, and abnormal pressures mean, sooner or later, chronic traumatic osteo-arthritis. The conditions under which traumatic osteo-arthritis occurs are extraordinarily difficult to assess. At one time, it was regarded as the prerogative of old age, and so it is undoubtedly, to some extent, a prerogative of age. So many people's joints over fifty, particularly those who have played rough games in their youth, creak, and when the weather is bad they ache. Such a person gets a fracture of his tibia somewhere near the ankle joint, and the fact that he has got a slight degree of mal-

alignment accentuates his trouble, and the ankle joint aches more. An X-ray shows arthritic changes in the joint.

But, though undoubtedly both age and lack of correction of deformity are factors in its causation, traumatic osteo-arthritis will occur in joints, apart from either of those two factors. I cannot give you a good example resulting from a fracture, but it is an established fact that if, by either operative or non-operative means, a congenital dislocation of the hip is, in the first few years of life, replaced, before that patient is 21 he has marked osteo-arthritic changes in the hip joint. So that there may be other factors in relation to the occurrence of osteo-arthritis of a joint of which we have no, or only very incomplete, knowledge.

Let us review, in order, the incidents in the treatment of a fracture of the lower limb. The first incident in treatment and the most important is, undoubtedly, reduction of the deformity. You will think I am extremely elementary in referring to this; and though I am not prepared to say of students of our school, yet certainly I can of students of other schools, that if I were to ask the treatment of a fracture of the lower limb, in 50 per cent. of the answers the statement would be made "I would put it up in so and so." To my mind, what you put it up in is absolutely unimportant. It is evident, whatever you may be taught or whatever you believe, that a large number of teachers, or books, pay no attention to what I regard as the most important part of treatment, and that is, reduction of deformity; this seems so blatantly apparent to us that we cannot believe anybody else to be so ignorant as not to believe what we believe. Incidentally, I may remark that putting a fracture up in any form of apparatus should never be relied upon to reduce deformity. I shall speak to you, in a few minutes, about the value of what is called "skeletal traction," and I think the only disadvantage which can be urged against skeletal traction is that it may give one the idea that one is relying on something happening by means of mechanics, by means of apparatus, to a badly aligned fracture, which will bring it right without the interference of the surgeon in charge. The only way to feel sure that reduction of deformity has been secured is to do it yourself, feel it, and to see that it is correct from radiographs. Then you know, and you are not relying on something being gradually brought about; because the majority of apparatus which is in use, such as a back splint and foot piece, are entirely inadequate to maintain the fractured bones in decent position. If you admit that they are unable to maintain bones in position, then much less capable are they of bringing to alignment badly aligned bone ends. Far too much, in the past, has been left to apparatus. Whereas our grandfathers laid stress on setting the fracture, for a long period setting the fracture passed out of popularity, and surgeons were perfectly willing to assume that miracles would happen with regard to deformities. As far as my own observations go, when a badly aligned fracture is put up in an apparatus with the hope that it may correct itself, it is found, within the next few weeks, that it has steadily got worse.

To what is deformity due? This is by no means easy to answer. The factors are the forces causing the fracture, muscular pull and gravity. I believe that the force causing the fracture is the most potent agent in the production of deformity. One cannot suppose that when a force of sufficient intensity and duration has acted on a limb and has produced a fracture that immediately such a fracture has occurred the force ceases to act. And this force continuing to act will cause the bone ends to separate, will allow muscles and other structures to intervene. And, of course, by acting and driving the bone ends into the soft parts this force will produce the injuries to the muscles and other connective tissues of which I have spoken already.

We divide the forces which produce fractures into direct and indirect; and it is customary to say that a transverse fracture is produced by a direct force, and that an oblique fracture is produced by an indirect force.

I have not available a good example of a transverse fracture in the lower limb, but I happened on this skiagram, which I thought served my purpose. It is of a fracture of the lower third of the radius, which is called the adolescent type, because it is a not uncommon fracture in young people; in it the radius is broken at the junction of the upper two-thirds and the lower third, and the upper end of the lower fragment is displaced forwards. It is difficult to reduce because the displaced ends of the radius are held in their faulty position by the uninjured ulna. Now it would appear easy for such a transverse fracture to be produced by a blow at the back of the forearm, yet I cannot recall any of these cases which I have had to deal with in which the patient has given a history suggestive of a blow on the back of the forearm or in which there was any external evidence of local injury. It is clear that such a blow would produce this displacement only when acting from behind forwards; and, therefore, it is difficult to see how it does not at the same time fracture the ulna. I think those of you who have seen this type of case will agree that there is no evidence of any local injury over the back of the radius such as bruising, no laceration or excoriation

of the skin. The only parallel I have which I can discuss with you, in the lower limb, is the parallel of what we always have known as extra-capsular fracture (fracture through the base) of the neck of the femur. Several years ago Dr. Stebbing, of Lambeth Infirmary, produced a most excellent paper on the treatment of fractures of the neck of the femur in Lambeth Infirmary. It was founded on a much larger number of cases than, in my time, has been produced elsewhere. Stebbing showed, in the first place, that there was no evidence of local injury; and since that paper I have looked up every case of fracture of this type that there has been in Cornelius or Evelyn, and I have found one only which had evidence of bruising over the greater trochanter, suggesting that it might have been caused by a local blow. Stebbing showed, also, that the age-incidence of these cases which in the Lambeth Infirmary were treated for fractures through the base of the neck of the femur was greater than the age-incidence of those patients who were treated by them in the same place for fractures through the apex of the neck (intra-capsular fracture of the neck of the femur). He evolved the idea that this type of fracture of the neck through the base, impacted though it was, was produced by torsion. The mechanics of the fracture are easily understood if one believes that it may be produced by a most extraordinarily forcible external rotation of the femur, or external rotation of the lower limb. Provided the external rotation is sufficient it would be easy for it to produce impaction, as usually occurs, of the posterior compact tissue of the neck of the femur into the cancellous tissue of the great trochanter. Because to anybody who is doubtful whether the old explanation of this fracture is inaccurate, at once comes the additional argument in favour of Dr. Stebbing's view, that if this fracture is due to direct violence, why is the impaction always so much at the expense of the posterior aspect, and so little at the expense of the anterior margin of the neck? When these fractures are impacted, they are always impacted with the limb in extreme external rotation, and it is difficult to see how a blow delivered directly on the trochanter can never drive the neck into the great trochanter in an absolutely transverse plane, and never drive it in a plane so that there is inversion of the limb. There is always marked eversion of the limb.

The fracture I showed you of the lower end of the radius, I think, must be produced in the same way. I am only trying, in this suggestion, to stimulate your curiosity as to how these are produced. A vivid curiosity in such questions as these has no pecuniary value; it is not profitable in any kind of examination; but if you are going, throughout your professional life, to retain interest in the subject by which you have chosen to earn your living, you must retain curiosity.

It is universally stated in books that deformity is due to the pull of muscles. It is clear that a patient with a fractured patella has the two fragments of the patella kept apart from one another by the pull of the quadriceps; but this is not on all fours with the influence which muscles running from one fragment to the other may have upon the deformity or of muscles attached to one fragment only. Muscles passing from above to below a fracture must by their tone have the effect of bringing these two fragments closer together and causing overlapping, but the direction in which the pull of the muscles will cause displacement to take place is entirely beyond my knowledge. I think it is the most difficult thing to conceive, there are so many factors which are contained therein. For instance, you know well, in relation to the fine movements of the hand, that the abolition of the extensor entirely puts out of action the corresponding flexor; and—though it is not exactly parallel—this is an example of the difficulty one has in trying to say that any individual muscle will push or pull a fragment in a certain direction. I may be pressing this too far, but I think you must admit that there are certain grounds for my belief when you recall that you have seen the same fracture in the same position, produced apparently by the same injury, and yet the deformity is different. If the deformity is due to muscular pull, surely it ought to be constant.

I have already pointed out that you cannot rely upon apparatus to reduce deformity. The ideal way of reducing deformity is to take the patient into the X-ray room, give a general anæsthetic, see what one is doing, reduce the deformity, and immediately correct one's opinion by screening. It is not always easy to do this; it is a counsel of perfection which I have preached for several years, and which I intend to go on preaching, in the hope that by the time I am very old I may find one person in one hospital in the British Isles doing it! Facilities for giving patients anæsthetics in X-ray rooms are not great; there is the difficulty of giving patients chloroform in the dark,—it is the practice to give chloroform because ether is dangerous under the circumstances—but still our firm does it occasionally, and it is wonderful what one learns from it. One thing, as I am constantly saying, is that you find that, having reduced the deformity, it does no much matter in what position you put the limb up, for whatever the position the fracture will not move if deformity is once reduced. In an ordinary more or less transverse fracture, having got the fractured ends in

apposition, they are held together in position by irregularities of the two surfaces, and the tone of muscles passing across the fracture binds the two ends together and keeps them from separating. In this view I find myself in entire disagreement with Sir Robert Jones, when he urges that certain fractures must be put up in certain positions. I have no doubt that I am not perfectly right, but I have so often seen this, and have so often proved it under an anæsthetic on the X-ray table, that until I prove the opposite I shall go on believing what I have seen; I cannot escape from the conviction of my own senses, and the convictions of one's own senses have far more potent influence on one's actions than the remarks of any other person. Now, when reducing those fractures, immediately above the elbow joint, typically met with in small boys, which you are told must be put up in the fully flexed position at the elbow, I find that, having reduced the deformity, there is a very wide range of flexion of the elbow joint in which the fragments retain their exact position; and this can be absolutely verified on the X-ray table while the patient is under an anæsthetic.

We will, for a few moments, discuss the value of other means of obtaining alignment, and I will show you the skiagram of a case of a very inconvenient, uncomfortable kind of fracture immediately above the ankle joint. I do not know how to put it in mechanical terms, but perhaps it will be clear to you what I mean when I say that the nearer a joint, the greater the need for exact reposition. It seems that a certain degree of angulation in the middle of a shaft of a bone will not produce such a bad effect as a similar degree of angulation which is adjacent to a joint. A man of 60 years sustained a fracture immediately above the ankle joint, which, you can see, has split his tibia right up the shaft, and the fracture extends into the ankle joint with considerable comminution. All the ordinary methods of operative treatment are incapable of dealing with this. A bone graft or a plate could not be fixed; there is nothing for screws to get hold of, and wire is hopeless as a means of keeping bits of bone quiet, except in one plane. So Mr. Northfield fixed a steel pin through the os calcis and applied 14 to 20 lbs. weight. The fracture has been pulled out, so that the shaft is no longer drawn down between the malleoli. Almost at the same time the same method was used for an overlapping fracture of the tibia. This shows the various points at which the bones around the knee joint may be transfixed. It is our practice to use a pin which goes right through the femur, and we endeavour not to penetrate the synovial membrane of the knee joint. I am satisfied that a pin is generally better for this purpose than Beesby's icetong callipers. Some surgeons object to putting callipers or a pin through the lower end of the femur, because they say that, in their hands, they get limitation of movement of the knee, and so they use some means such as driving a nail or one of these pins through the tubercle of the tibia. I have made enquiries of the Sisters, and I find on enquiry that we do not get any trouble in the adjacent joint. I feel there is a fundamental objection to putting a large amount of weight on a pin driven into the upper end of the tibia when traction has to act on the lower end of the femur through the knee joint.

Six Cases of Surgical Interest

THERE have recently been under my care in Naaman and Lydia wards some cases of such interest that it seems worth while putting pen to paper on their behalf. Six cases have been selected, of which the first three have their interest mainly in diagnosis, and the second three in treatment and operative sequelæ. There is not space to go into any great detail, so only the main points of each will be given.

I—AN INGUINAL SWELLING.

This patient, Clara K——, aet. 44 years, was sent up to the surgery with a doctor's letter to the effect that she had had a right inguinal hernia for eighteen months and that two days previously, following a strain, it had become very much larger. There had been no vomiting and her bowels were last open the day before.

The swelling on examination proved to be a hard, fairly mobile lump in the right inguinal region, but without impulse. The overlying skin was reddish and inflamed, but there was only a very moderate degree of tenderness. No œdema was noticeable and no sore spot on the leg or elsewhere could be detected. Was the swelling an inflamed hernia? Two points at any rate were against this, *i.e.*, the swelling extended laterally rather beyond the region of the internal abdominal ring, and medially completely overlapped the pubic spine.

On going into the history more carefully, a number of enlightening points were discovered which well illustrate the necessity of detail in obtaining a patient's story.

In the first place, the "hernia" present for eighteen months had never been seen by a doctor.

It was a small, hard, painless lump not affected by coughing or straining, and, in fact, not altering at all except for periodic slight alterations in size. The patient said it has always been as hard as it was at the moment of examination. Presumably, it was in reality a small inguinal gland.

Secondly, the "strain" was also a fallacy, consisting of nothing more than the fact that the day before the swelling began to enlarge the patient had been lifting a bath full of water. She felt no pain at the time, but attributed the increase in size to this.

A confident diagnosis of inguinal adenitis was thus made and hot fomentations applied. Seven days later it was ready to be incised. This was done and a medium-sized abscess cavity opened and drained. It did not communicate with any of the deeper parts and the whole condition soon cleared up.

II—AN INGUINO-SCROTAL SWELLING

This was another case in which the history first obtained was misleading. The ward clerk's report reads as follows: "About three months ago, while doing heavy work, he (a labourer, aet. 24 years) strained himself. Then he noticed a lump in his right groin. This disappeared after a night's rest. The lump has since reappeared and disappeared periodically."

On inquiring more closely, the strain, as in the previous case, was not severe and preceded the onset of the swelling by a number of hours. The swelling was not inguinal but scrotal, the patient being quite definite about this. There was little tenderness, and after a night's rest it apparently went down almost to normal. There had then been no reappearance of the lump until the morning of the day of admission when on his way to work the patient noticed inguino-scrotal pain. On examining himself a little later he observed a swelling chiefly in the scrotum, but extending up into the groin. This rapidly became more and more painful and he vomited once. The bowels were last open the day before. There was no history of trauma.

On admission, there was seen to be a tense, painful and extremely tender swelling in the right side of the scrotum extending up into the inguinal canal. Coughing was very painful and there was no impulse. The right testis could not be felt apart from the swelling. The abdomen was normal otherwise, and temperature and pulse were also normal. While in bed the pain gradually became worse and worse.

The differential diagnosis appeared to lie between acute orchitis, strangulated hernia, and torsion of the testis. Orchitis was made unlikely by the absence of temperature, and the fact that the swelling extended into the inguinal canal. There were no signs of intestinal obstruction and an enema produced a fair result pointing against strangulated hernia. Torsion of a descended testis for no apparent cause is very uncommon, but the intense pain and tenderness were in favour of this diagnosis. Actually a definite diagnosis was not made prior to operation, when a remarkable state of affairs was revealed. The case was indeed one of torsion in a fully-descended testis. The latter had rotated through 360°, was much swollen, and dark puple in colour. The cord was greatly swollen also, infiltrated with blood, and very deeply coloured. The twist was undone and after some minutes the testis showed signs of improvement as it was replaced.

The patient made a good recovery and the swelling of the testis subsided considerably. However, after a fortnight it was still larger than its fellow and much harder. Testicular sensation was absent so that the organ was undoubtedly largely destroyed.

It is difficult to understand the mechanics of this case, for there appears to be no reason why the testis should have twisted on the cord. The amount of twist (360°) is also rather amazing, and the exact nature of the previous swelling, noticed three months before, is also doubtful unless it could have been due to a slight and temporary torsion.

III—A SWELLING OF THE FACE.

Kitty B——, aet. 17 years, was sent by her doctor as a possible cavernous sinus thrombosis. Her story was that three days prior to admission the right side of her nose became swollen, tender and painful. The swelling spread onto the face and both eyelids, but there was nothing in the way of general symptoms other than a moderately severe frontal headache. There was no history of any recent injury to the parts in question.

On admission, the nose was considerably swollen on the right side, slightly red, and very tender. There was great œdema of both upper and lower eyelids on the right side so that the eye was closed. No tenderness over the frontal or maxillary air sinuses was obtained. The interior of the nose showed what appeared to be a small boil on the right lateral wall not far from the anterior nares. The septum was slightly swollen. Temperature was 102°F. and pulse 120.

Fomentations were applied and anti-streptococcal serum administered. Thirty-six hours after admission the left eyelids became œdematous and soon the left eye was almost closed also. The swelling of the nose was rather more diffuse, but

still very tender. The septum had become more swollen than previously and the temperature remained high.

On the following day the septum was found greatly distended, completely blocking any airway, so it was decided to incise it. This was done under local anæsthesia, but only blood was obtained with a very small quantity of purulent-looking material.

The next day the septum was again as large as ever, and the case was seen by Mr. Mollison. He suggested that it might be an osteo-myelitis of the nasal bones, and advised opening the septum thoroughly and deeply as well as making an incision on the dorsum of the nose. Again mainly blood and clot were obtained with a small quantity of pus. Blood alone came from the dorsal incision and the nasal bones, although probed, felt quite smooth without any evidence of sequestra. Hot fomentations were applied and the whole condition has since cleared up fairly rapidly though the septum is still wider than normal. The cartilaginous portion has, of course, been destroyed, and it may be necessary to reform it sometime in the future.

IV—INTESTINAL OBSTRUCTION.

This patient was an old man of 66 years who had had two previous operations elsewhere.

The first was two years ago for some form of acute intestinal obstruction, a cæcostomy being performed. This, however, gradually closed up and six months ago had to be enlarged, as the abdomen became enormously distended, and the patient was once more obstructed and very ill. The surgeon, on this occasion, had been unable to find out what had been discovered at the previous operation and the patient was too ill for an exploration. Following this, he improved enormously and wished, if possible, to have something done to his cæcostomy which was a great trial to him. Hence, his admission to Guy's.

A barium enema did not reveal a stricture, but showed great dilation of the descending colon which appeared to contain much fæcal material. Enemata produced poor results.

Owing to the length of history and fitness of the patient, a carcinoma seemed unlikely, so it was decided to operate and see what could be done to make him more comfortable.

At operation the whole colon, especially the descending part, was found to be greatly distended and to contain an astonishing amount of almost rock-like fæces. A long fibrotic stricture was present, due presumably to an old diverticulitis, in the lower part of the pelvic colon. It did not suggest malignancy so the terminal ileum was divided and an end to side anastomosis made with the upper part of the rectum below the stricture. The cæcostomy was left alone.

Following this, the old man made an excellent recovery and was soon passing his motions per rectum without difficulty, under control, and in comfort. Small quantities came out through the cæcostomy for a time, but this is now of such little trouble that it has been decided to do nothing to it.

V—REPEATED PEPTIC ULCERATION.

Elizabeth B——, aet. 59, had had two previous operations. The first was in 1916 by Mr. Dunn, when a lesser curvature ulcer with hour-glass contraction was found. A gastro-gastrostomy was performed, and gave complete relief for some years.

In 1923 she was readmitted under Mr. Rowlands for return of symptoms, the X-ray suggesting a large ulcer on the lesser curve. At operation such was found to be present, and associated once more with an hour-glass constriction. There was no evidence of the previous gastro-gastrostomy, so a new gastro-gastrostomy was performed. This gave complete relief for five years after which symptoms once more returned.

In October, 1929, patient was admitted again. X-rays on this occasion showed a normal-looking stomach, but stenosis of the first part of the duodenum with considerable gastric delay. At operation, the stomach appeared almost normal, evidence of the gastro-gastrostomy only with difficulty being found. There was, however, a large and active duodenal ulcer eroding the pancreas, so a gastro-jejunostomy was performed. Patient made a good recovery and was discharged feeling well.

VI—GASTRO-JEJUNAL ULCERATION.

In June, 1922, William G——, now aet. 44 years, had a gastro-jejunostomy performed for duodenal ulcer. Following this he had five years of good health.

During the past eighteen months he has had four attacks, each lasting three to five weeks, whose main symptoms were as follows :—

1. Upper abdominal pain, almost continuous.
2. Very foul, fæcal smelling eructations of gas.
3. Loose watery diarrhœa soon after eating.
4. Increased appetite which was difficult to satisfy.

Physical examination revealed little apart from a full abdomen with epigastric tenderness, and some guarding of the upper recti. A confident diagnosis of gastro-jejunal ulcer with gastro-jejuno-colic fistula was made. A gastric X-ray showed no evidence of such a fistula, and all the barium enema revealed was a small filling defect

in the transverse colon. The X-ray tests, however, are not often of value in this condition, as spasm at the site of the fistula will completely mask it. The clinical history, however, is quite characteristic and could hardly mean anything else.

At operation (by Mr. Rowlands), adherent intestine obscured the gastro-jejunostomy and was unravelled only with much difficulty. Finally it was seen that there were three stomata in addition to the gastro-jejunostomy. These connected the transverse colon with (*a*) The stomach; (*b*) The jejunum just at and beyond the gastro-jejunostomy; (*c*) The termination of the duodenum.

It was at first hoped to unravel the tangle and restore the normal anatomy, but this was impracticable as the duodenum was not sufficiently potent.

The transverse colon was first separated from the other parts and the openings in it closed after cutting away excessive mucous membrane and diseased tissue. This left three openings—in the stomach, duodenum and jejunum.

The gastro-jejunostomy was next excised and the cut upper end of the jejunum joined to the stomach (end to side union).

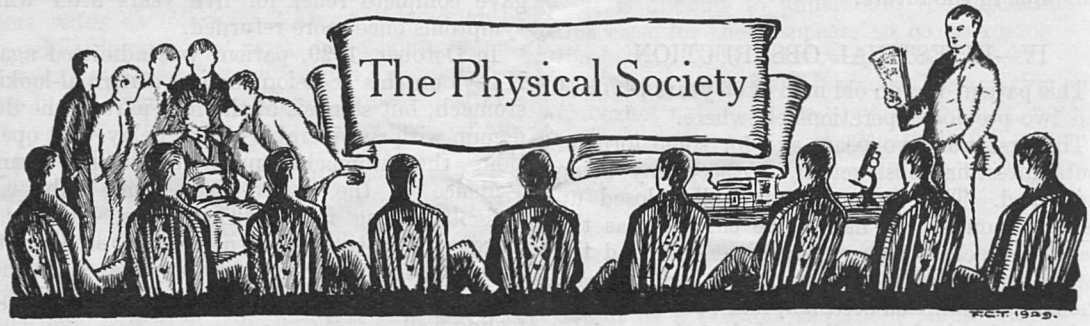
The cut end of the duodenum was finally anastomosed with the jejunum a short way below its junction with the stomach, thus to all intents and purposes completing a Rouse's Y gastro-jejunostomy.

Infusion of gum was given him two hours after the operation which was, naturally, one of considerable length and severity owing to the numerous adhesions present. The patient, however, did remarkably well, and on the following day looked as though he had not had much more than a simple laparotomy.

Apart from chest troubles, he made an excellent recovery and was discharged from hospital feeling very well.

I am indebted to Mr. Rowlands for permission to publish these cases.

H. N. W. H.



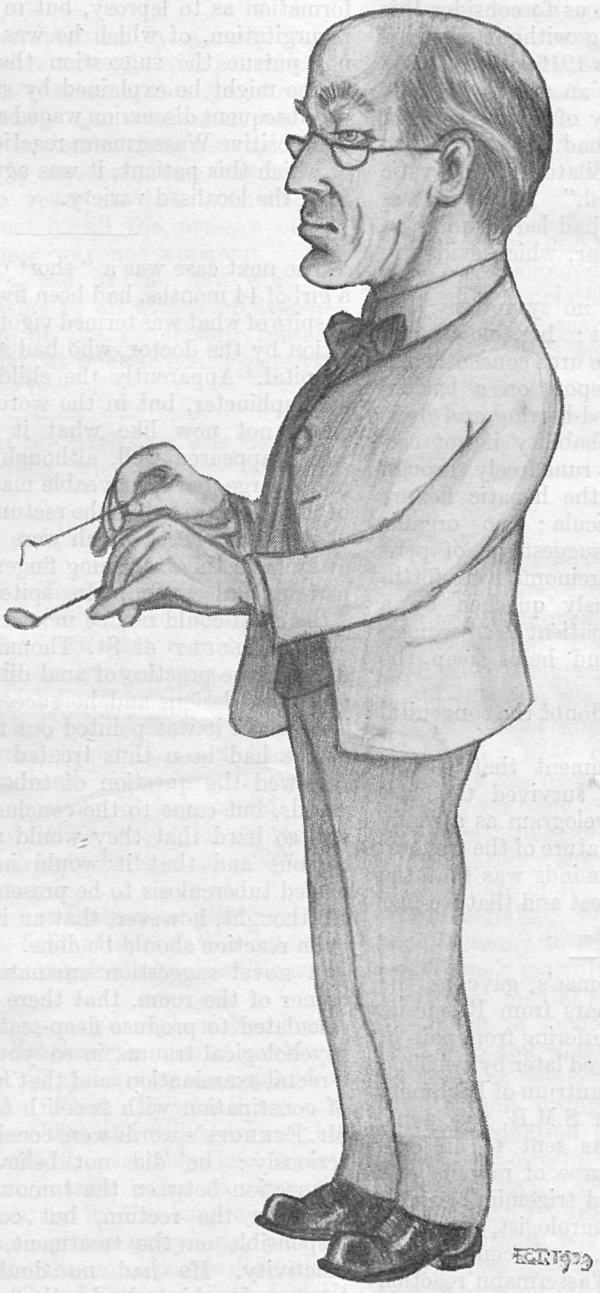
A COMBINED Meeting was held with St. Thomas's Physical and Medical Society on October 19th, at St. Thomas's. Seven cases were shown, and after a brief examination of them in the Hospital, we repaired across the road to the spacious Student's Club, where we were privileged to hear the Thomas's members most ably demonstrate their cases. From start to finish we enjoyed a most interesting evening.

Mr. ELKINGTON, of St. Thomas's, invited members to discuss the first patient, who was a small girl of seven, "occupying the middle of two cots." When the laughter had subsided, he gave us an outline of the illness: the child, following a fall in May, 1929, had suffered from periods of excitement with gradual mental deterioration, and after ten weeks a diagnosis of encephalitis lethargica was made. Subsequently, the child was admitted to St. Thomas's, suffering from marked dementia, extreme wasting, complete blindness, and occasional involuntary movements of the limbs; examination showed spasticity of the lower limbs and bilateral extensor plantar responses. The illness was still progressing with increase of the paralysis. Investigation showed no abnormal findings in the C.S.F.

Mr. CROOT was the only member of either hospital equal to the task of diagnosis, he suggested Tay-Sach's disease, but following the information that there were no retinal changes, withdrew his suggestion.

The first speaker then reviewed the possible diagnoses, grouping them as vascular, neoplastic and degenerative; he came to the conclusion that the case was one of Schilder's encephalitis; in favour of this was the sudden onset, with increasing paraplegia and the onset of blindness with marked mental deterioration.

ORAL EPITAPHS III



"Tho' Frank and open is his mien,
He wields his probe with courage fierce;
As o'er his specs, with vision keen,
The oral depths he strives to Pierce."

We had all palpated the scarred abdomen of a woman of 71 years, and noted a firm, slightly irregular tumour occupying the right loin and iliac forsa. Mr. STORRS asked us to consider this mysterious abdominal swelling without allowing us to jump to conclusions. In 1916 a laparotomy had been performed following an attack of acute abdominal pain; the economy of labour and ink consistent with this time, had left a record only of the briefest: "Bilateral polycystic kidney, left kidney removed." Two subsequent laparotomies elsewhere had led to notes on a right-sided abdominal tumour, which evidently was increasing in size.

The woman complained of no symptoms, but renal deficiency was manifest; her blood urea was 84 mgms. per cent., and the urea concentration test was poor. An X-ray report on a barium enema played the part of a red-herring and drew many from the paths of probability if not certainty. It read: "The enema runs freely through unusual loops of colon; in the hepatic flexure there are numerous diverticula; no organic disease seen." As a result, suggestions of peri-diverticulitis and of colonic carcinoma were forthcoming. These were vigorously quashed by a gentleman who referred to the patient as a "woman who works in the *Alhambra* and helps keep the place sanitary."

Mr. COHEN was gathered to doubt the congenital nature of polycystic kidneys.

Mr. ECKHOFF rose to comment that it was remarkable that the patient survived the first operation; he suggested a pyelogram as a ready means to determine the renal nature of the tumour.

The impression left in our minds was that the surgeon in 1916 had been correct and that we had palpated the remaining kidney.

Mr. WINGFIELD, of St. Thomas's, gave us the history of a woman of 54 years from Rhodesia, who, at the end of 1928, was suffering from pain in the right side of her face, followed later by swelling. After several irrigations of the antrum of Highmore without any good results, an S.M.R. was done. From the rhinologist she was sent to an eye-surgeon, who found some degree of myopia and partial palsies of the facial and trigeminal nerves. This was confirmed by a neurologist, who discovered aortic regurgitation, and consulted a syphilologist who found the Wassermann reaction of the blood to be ++++. She then came to London, and at St. Thomas's it was noticed that her speech was thick.

A gentleman, on the discussion being declared open, promptly rose to diagnose sclerodermia with considerable assurance; he appears to have been right.

Mr. COHEN suggested that the nerve palsies were due to localised syphilitic pachymeningitis at the base of the brain. Mr. CROOT wished for information as to leprosy, but in the face of aortic regurgitation, of which he was reminded, he did not pursue the suggestion that the case under notice might be explained by such a diagnosis.

Subsequent discussion waged about the incidence of a positive Wassermann reaction in sclerodermia, of which this patient, it was agreed, was suffering from the localised variety.

The next case was a "short one"; the patient, a girl of 14 months, had been five days constipated in spite of what was termed vigorous rectal manipulation by the doctor, who had sent the case up to hospital. Apparently the child had had a tight anal sphincter, but in the words of the doctor it was "not now like what it was." The child, which appeared well, although slightly pyrexial, had a large, hard, moveable mass in the right side of the abdomen, while the rectum contained a mass of rock-hard fæces which were reputed to bounce away from the examining finger. There had been peri-anal ulceration. In spite of oil enemata, "the child could not be moved."

Mr. ALLBURY of St. Thomas's, strongly condemned the practice of anal dilatation in the face of a local lesion, and he successfully evaded the issue when it was pointed out that many an anal fissure had been thus treated with success. He reviewed the question of tuberculous abdominal glands, but came to the conclusion that the mass was so hard that they would necessarily be calcareous and that it would indeed be rare for healed tuberculosis to be present in one so young. He thought, however, that an intra-dermal tuberculin reaction should be done.

A novel suggestion emanated from a distant corner of the room, that there was nothing more calculated to produce deep-seated and permanent psychological trauma in so young a patient than a rectal examination, and that herein lay the cause of constipation with fæcolith formation. Perhaps Mr. ECKHOFF'S words were considered a trifle more seriously; he did not believe there was any connection between the tumour and the mass of fæces in the rectum, but congratulated those responsible on the treatment, namely, masterly inactivity. He had no doubt—this with his tongue in his cheek—that subsequently an appendicular abscess would be found.

Mr. HAMPSON at last supplied the light that was to dispel the shadows from about this case; he had seen a child which was indeed the replica of that now shown, no longer than a week before. This child had possessed a similar tumour in the

right iliac forsa, a mass of scybala in the rectum, and was pyrexial; repeated enemata disintegrated the tumour and cured the child.

We had all been puzzled by a middle-aged woman, whom we were now told with considerable éclat, presented all the signs and symptoms of Erb-Goldflam's disease. Our amazement was only slightly less when we learnt that we might also know the disease by another name, myasthenia gravis. For seven years she had suffered from progressive weakness of all the muscles of the body; the weakness was not apparent in the morning, but developed as the day wore on, frequently culminating in an attack of dyspnœa due to exhaustion of the respiratory muscles. She now had permanent nuclear ocular paralysis.

No discussion was invited.

The discussion of the sixth case was concerned with a small swelling lying on the lower-jaw opposite the first right molar tooth, about the roots of which X-rays showed an abscess cavity; the swelling was like nothing so much as an inflamed lymph gland, though in an unusual situation. Various tentative suggestions, such as aberrant dental cyst, and epulis, were put forward without much enthusiasm.

The last patient under discussion was a man, who had been nervous and unwell ever since being torpedoed during the war; he attributed his disability to "freemasons and wires," and insisted on wearing his cap and coloured spectacles. As we feared, he suffered from delusions. The Wasserman reaction of the blood was positive. The diagnosis of paranoiac G.P.I. was made.

Time was now up, we raised ourselves from out of our comfortable arm-chairs, and made our ways home again, mentally surfeited.

PHYSICUS.

"My Doctor"

THIS possessive description and the way in which it is invariably intoned is a wonderful tribute to the large part that the general practitioner takes in the lives of his patients and to the esteem in which he is usually held. There is no other profession, not even the Church, in which the professional relationship tends to such intimate friendship, and every practitioner of experience is the repository of innumerable confidences, and his advice is sought on many and varied matters which have little or no relation to medicine.

All this is often said and somewhat platitudinous, but it opens up a field of speculation into the philosophic attributes required of a practitioner of medicine.

And, first of all, the young disciple of Æsculapius would do well to realise that men are not machines, and that we are not all cast in the same mould or turned upon the same lathes. It is for this reason that no man, however keen and willing he may be, can expect, as he almost invariably does expect, a hundred per cent. success either in diagnosis, treatment, prognosis, or in the handling of his patients. He cannot please everybody, and he will be apt to feel hurt that some people dislike him and his methods. Then he must console himself with the philosophical reflection that after all, every patient who has come to him has in all probability been under and left some other doctor at some previous time, and this removes the sting from the small hurt to his pride when one of his patients leaves him.

For the same reason, it is essential for every man practising medicine to take adequate exercise and recreation. Doctors are not, as a rule, a long-lived race; they work hours that no Trade Union would tolerate, they eat hurried meals and they lose that most important faculty, the power of relaxation. Most of the bad mistakes of our profession are made by tired men—mistakes that after a good night's rest they would not dream of, and cannot imagine how they were made. But, unfortunately, our's is a profession in which mistakes are of the greatest importance and may be irremediable. For this reason, it is obviously a poor economy to earn a few extra fees at such a risk to one's patients and to oneself.

Another mental state that is unfortunately far too much in evidence in the members of our profession and which must be sternly repressed at its onset, is jealousy. It is, alas! only too true that, I think owing to the very intensity of the personal equation, the Green-Eyed Monster is rather too powerful a "Ju-Ju" in medical circles. Remarks like: "Why on earth did So-and-So go to that chap?" are far too often heard. It is so easy to criticise, but the real philosophy to develop is to realise that no man, particularly in a large city, can do *all* the work that there is going, can see *all* the interesting cases or important patients, and to wish good luck to the man who has the best, with a determination to have it oneself some day.

I think that few doctors realise how much they are criticised, praised or cursed by the laity at all times and seasons, and more often than not, both

praise and blame are most unduly awarded. Lay folk have a complete lack of the sense of proportion where doctors are concerned; we are all either "marvellous" or "hopeless," and there is no between state. This soon teaches the necessary, indeed essential broadmindedness, and the young practitioner learns not to become too conceited by praise nor too cast down by criticism.

A successful doctor has of necessity to be a good actor, and in this I do not mean that his sympathy for his patients should be pretended, but that he has to learn the proper approach and manner to gain confidence of each individual, and the over professional bedside manner will lose many patients. He has constantly to adapt his mental processes to those of his patients, and in the course of a busy morning's round, his mental *voltes faces* may be both numerous and fatiguing.

Finally, yet a further plea to encourage the development of that increasingly rare faculty, the power of observation. Apart from patients themselves, study their houses, the arrangement and nature of their furniture and pictures, and above all, their books; books give a wonderful, though not infallible, line to the type of patient about to be seen, and have on innumerable occasions afforded me a successful conversational gambit. I say not infallible, for people do take furnished flats and houses and become the temporary holders of other peoples *lares et penates*, and a bad *faux pas* can be committed through this very cause.

There is no doubt that our's is the finest profession in the world, for to us is given a wonderful power of helping our fellows. The ideal motto of our Brotherhood can be well summed up in the words of a famous song of the present day: "Spread a little happiness"; and by so doing, one, and not the least of your rewards, lies in the constant hearing of the words: "My Doctor."

G. P.

The Prevention of Dental Caries in the Young Child

A Lecture given by Mr. Dowsett, at Guy's Hospital, October 28th, 1929

GENTLEMEN,—Our subject is the prevention of decay of the teeth in young children. Although you may not quite realise it, decay very often does start at quite an early date, and we not infrequently see young patients in our Dental Out-patients Department here, three years old, or even less, suffering from dental caries. That is a very tragic sight indeed. Not only that, but it is a reflection on our means of prophylaxis. But that is largely due to the fact that we as dental surgeons are not able to get at the right people to deal with the situation. That is one reason I have chosen this subject—because it needs wholehearted co-operation of the medical service to deal with this problem. Therefore, I am hoping you may be able to assimilate some of the things I may suggest to you, and help in this propaganda; because it is the mothers and nurses that we want to get to work with rather than the children themselves.

First of all, with regard to the reasons for preserving the deciduous dentition. It is often said, especially amongst the poor, that if the deciduous teeth decay it does not matter, and they can be extracted when necessary. But, to begin with, they are the means of mastication; therefore, for that reason alone it is important that they should be preserved. Again, if they are not looked after, the child will suffer pain, and incidentally the pain will react upon the general system, and the child is likely to get ill for that reason. Still worse, if the deciduous teeth are allowed to decay, other troubles will supervene, because the child is liable to get a large amount of toxic absorption from the septic condition of the mouth and the surrounding parts. Apropos of that point, while I am on it, when the child does suffer to that extent from having septic teeth, it is much more important to get rid of them, and that the child should have none for mastication purposes, rather than leave them. As a rule, children who suffer from septic teeth will thrive after those teeth have been removed. I mention this incidentally because I said the child wanted its teeth for mastication purposes, but it becomes a question of the lesser of two evils.

Lastly, as regards reasons for preserving the teeth, if the teeth are lost too early, there is always a chance of the jaws not properly developing and of a lot of irregularities to the permanent dentition, thereby leading to further troubles, such as interstitial caries, gingivitis, and so on.

To get down to the actual causes of caries of the teeth, you can put them under two main headings—one to faulty construction of the teeth; the other to environment of the teeth. By *environment*, I mean the type of food which is put into the mouth, which, if it is wrong, will induce caries of the teeth. Not only does that apply to food, but to other articles taken into the mouth which are also deleterious—sweets, and so on, which are not necessary and about which I will say more shortly.

As regards the faulty structure, I want to remind you, first, of the period when the teeth are formed. The crowns of nearly all the deciduous teeth are calcified before birth. Not only that, but also the cusps of the first permanent molar teeth are formed before birth. Therefore, if these teeth are to be properly formed so that they will resist to the greatest degree the onset of caries, we have to see to it that the proper means are taken. That can only be done by seeing to the proper nutrition of the mother, and this is of the utmost importance.

It is disputed, however, by some that the teeth are affected before birth. Personally, I think that is wrong. I have personally known quite a large number of children who have had very badly calcified deciduous teeth.

Coming to the question of the care of children *after birth* in considering faulty structure, all the permanent teeth have to be formed after birth, except the cusps of the first permanent molars, therefore, we want to know how their calcification can be best brought about after birth. It is, of course, probably by proper feeding. I hope I shall not be "treading on the toes" of my medical confrères in talking about the feeding of children; but I am talking to you from a purely prophylaxis point of view, knowing, of course, at the same time, that there are other considerations to be thought about, and certain conditions of the child, which necessitate modifications of certain diets that prove to be unsuitable.

You must take it for granted that the feeding of the child has an enormous influence upon the calcification of the teeth. That has been verified not only experimentally, but also from observation of children. Much good work has been done in that direction by Professor and Mrs. Mellanby of Liverpool. If the child is badly fed, calcific matter is not deposited normally, and the teeth, if not properly calcified, are much more prone to decay. I will say, first of all, that the child should, wherever possible, be breast fed instead of bottle fed. There is not the slightest doubt whatever about that, speaking merely from the teeth point of view. Other reasons I leave quite alone. In confirmation of this, there is an enormous amount of evidence which everybody can observe for himself after he has been in practice only a few years. I, personally, have always been interested in the subject, and have made particular note of such instances where I have been able; and, like many others, I have come to the conclusion most decidedly that children who have been breast fed have teeth which are infinitely better, out of all proportion, than those who have been bottle fed, or fed on artificial foods. There is no comparison whatever, and I should like to lay that very strongly indeed before you.

I know there are questions that arise with regard to breast feeding of infants. One is that the social considerations of some mothers prevent it being carried on for more than a very short period. Another reason is that there is no milk in the breast. Those two reasons are, to put it perfectly plainly, stupid. The social reason should not, of course, be allowed to stand. With regard to there being no milk in the breast, this is purely a medical question, but I am quite sure that those in a position to judge will agree with me that if the child is allowed to suckle, milk will be there. Therefore, there is not the slightest reason why the vast majority of mothers should not suckle their children.

After the teeth have erupted we have to consider the matter—not only from a calcification point of view, but from an environment point of view—the amount of food which is left surrounding the teeth after a particular meal is finished. Before going into that, I would like to explain to you, for the benefit of the uninitiated who are not as conversant as the dental student, with the actual cause of caries of the teeth, that the process of decay is due to what is called the chemico-parasitic theory; this is the action of micro-organisms on carbohydrate food, by which acids are produced, and these acids help to dissolve the enamel and then get to and decalcify the dentine and then other bacteria peptonize it. That is just sufficient to explain to you that the carbohydrate is the most deleterious part of the diet that we have to think about.

Just a few brief points about bad things that are given to a child, before I give you what I consider is the proper type of diet. To begin with, pappy food, which is so common amongst the poor, is very bad, not only because it is a wrong type of food, and is not assimilated properly, and does not allow for the proper amount of mastication, but it is a type of food that clings about the teeth after the meal is over. It is a carbohydrate food, and will, therefore, ferment into acid, and in poor teeth caries will soon start. Milk with bread or patent foods mixed up in it, are all very bad. Then comforters are frequently used to keep the child quiet. The comforter *per se* would not be so bad as regards the incidence of caries, but it has other very bad effects. When with that comforter other things are used it may be very deleterious. That comforter is frequently dipped in sugar, or jam, or condensed milk, or honey, or virol, before being put into the child's mouth; and that is obviously bad. Many mothers keep a little pot

of condensed milk, or jam, for the purpose of putting some of it on the comforter in order to keep the child quiet. That, of course, is bad because it is a carbohydrate which is continually being kept in the mouth. Then there is the iniquitous sugar bag, not used so frequently now as it used to be, but it is on occasions found still—a lump of sugar which the child is given to suck—another carbohydrate in the mouth. One other terrible habit of mothers and nurses is to give children articles of diet as they are going to bed at night, even after the teeth have been cleansed. Very often the child on waking up at night is given these articles of diet. Biscuits are most frequent; sweets, bread and jam, and other such things are also given to the child on going to bed. That is a terrible but common practice, and it is up to you as doctors when in practice to stop such habits. It is extraordinary how ignorant mothers are of such little matters as these.

There is another point I should like to lay stress on. It is a practice which medical men themselves, I am sorry to say, adopt on occasion. That is, to order malt extract, which is always sweetened, virol and other such drugs, to be given to children after meals. Such drugs and treatment are doubtless in many cases very necessary, but if they are ordered and given after meals, it should be advised, of course, that the children's teeth and mouth should be cleaned immediately after the use of such drugs, because they contain a large amount of carbohydrate which, again, sticks to the teeth and tends to start the process of caries.

Another point—the question of cleansing. Lack of cleansing the teeth is a very serious matter with regard to the incidence of caries. All children should be taught that their teeth must be cleansed from the very time the teeth first arrive. It should be done by the nurse or mother first, and then later it may be done by the child. If it is done early enough the child gets into the habit and so will not seriously object to it.

Just one more word about the question of cleansing. If the teeth are properly arranged, that is to say, if there is perfect articulation, and if the diet is a normal diet, then artificial cleansing by means of a brush, etc., should not be necessary at all. The natural mode of cleansing, namely, by food, with a perfect articulation, is best. It is because our teeth are frequently not properly arranged, and also because we all feed on diet which is not perfectly natural diet, that the teeth do not get properly cleansed by means of the food, and, therefore, it is necessary to use subsidiary means, such as a tooth brush.

As to the kind of diet that the child should have, I will start by saying that the arrival of the teeth gives some indication regarding the nature of the food which is most suitable for the child at that particular period. Also the correct management at this particular time is really the crux of the whole question of the prevention of caries of the teeth. The first teeth erupt, that is to say, the incisors, in the infant about six to eight months old. These are deciduous incisors. The eruption of these teeth indicates that the child wants to gnaw, and because the child wants to gnaw, that instinct must not be interfered with. Therefore, the reasonable process to adopt is to give that child something to gnaw, and such a thing can be a piece of dry bread, or toast, or crust, with a little butter on either of these articles if you think it necessary; but none of them must be soaked in milk or water. The dry bread, or toast, or crust, must be given so that the child can gnaw it. But when that has been finished, then the child can be given a little milk or water, or the breast for that matter. If the child is still suckling properly, it should be at that time. If not, it should be given the bottle, with proper constituents added to the milk to make it as near breast milk as possible. That piece of dry bread, or toast, will not be swallowed whole. That is why parents are afraid to give the child something solid. Of course, the child can be watched because it might put a large piece into its mouth inadvertently, but in the ordinary way it will not. The instinct of the child is to gnaw; that is what a normal child will do. When the bread has been eaten in that way, milk can be given to wash it down, so to speak. Incidentally, the actual use of the jaws by gnawing and sucking will all be useful for their general development to say nothing of the salivation of the food and the introduction of a proper amount of saliva into the stomach, and digestion thereby aided.

That solid food can now be gradually increased and the amount of milk slightly lessened, and also the intervals between the feeds be made somewhat longer. That can go right on up to twelve months before you need to make any addition, except that round about ten months, as an extra article of diet, a little orange juice, or grape juice, can be freely given to the child at small intervals to make a variation in the diet.

At twelve months the child has some molars in place—four molars, one on each side, upper and lower. That is an indication that the child wants something definitely to masticate. Therefore, it should be given a little cooked fish, or mutton, or chicken, according to what can be obtained by the family; and the milk should be reduced correspondingly. I am not going into the definite amount of such food as should be given. That

must be left to discretion as to how much the child should take.

At seventeen to eighteen months, there are sixteen teeth actually in place, and I will now indicate the diet which should then be given. The child generally requires something quite early in the morning, earlier than most people. Therefore, approximately at 6 a.m. a child from seventeen to eighteen months should have a little milk and water, equal parts, and if necessary a small pinch of sugar in it, which makes it more palatable. At breakfast time, 8 to 8.30, a little boiled fish, or a boiled egg, and bread or crust with butter; or, if the child prefers it, toast with butter; then finishing up with milk and water. At dinner time, 12.30 to 1.30, a little soup with toast; then fish, or a little mutton or chicken with potatoes, bread, or crust, or toast; then water, or milk and water, to finish up with. It is important that the milk should be taken to finish the meal, not taken in sips during the whole of it. At tea time, 4.30 to 5, again bread and butter, or toast and butter, or toast and dripping which is a useful article of diet; quarter of an orange to suck, or grapes, water, or a little weak milk and water. Then at bed time milk and water only; and then the teeth cleansed, and nothing given afterwards.

That brings one to say also, in speaking about having nothing afterwards, that no eating, or drinking, for that matter, should be allowed between meals, and no sweets under any circumstances whatsoever. Personally, I honestly believe that if sweets were prohibited by law caries of the teeth would be lessened in children by about 70 to 80 per cent. But I am afraid that is rather Utopian and beyond our wildest hopes.

Correspondence

An Essex Pilgrimage

To the Editor of the GAZETTE.

SIR,—The letter in your last issue entitled "An Essex Pilgrimage," appears at an opportune moment. The Harvey Memorial Committee is about to launch another appeal to the medical profession, with a view to securing subscriptions to defray the cost of rebuilding the tower of Hemstead Church where William Harvey lies buried. One of the proposals is that the hospitals and medical schools should make individual collections, and I have been asked, and have agreed, to act as "local Secretary" for Guy's Hospital and Medical School. With the Harvey Tercentenary so recently in our memory we should all fell particularly stirred by this very reasonable appeal to our pockets. Indeed, I would go further and say that we should harbour a sense of shame until the work of restoring the Church is properly completed and paid for. Forms setting forth the objects of the appeal and the extent of the funds needed will shortly be available. If every Guy's man and student will subscribe something, however small, we should be able to forward a substantial sum to the Committee. "S.G.F." has indicated whither subscriptions may be sent, but, if it seems preferable to Guy's men that there should be a separate Guy's contribution, I would suggest that subscriptions be sent to me and I will see that they are duly acknowledged and forwarded. I shall hope, at some future date, that the GAZETTE may be able to publish an announcement to show that Guy's men have responded nobly to this appeal.

Yours, etc.,

13, Wimpole Street, W.1. J. A. RYLE.

Royal Medical Benevolent Fund Christmas Gifts

To the Editor of the GAZETTE.

SIR,—It has been the practice of the Royal Medical Benevolent Fund for many years to give a Christmas Gift to each Annuitant and some of the most necessitous of the Grantees.

Both the Annuitants, who are over 60 years of age, and the Grantees are deprived of those little amenities of life which the more fortunate of us enjoy.

Many of our Beneficiaries are alone in the world, as their friends and relations have passed over, and consequently they will not receive any gift or extra comfort this Christmas.

Last year the Fund gave to each 30s., this meant an expenditure of £500. Many readers will wish that the recipients of this gift in former years should not be deprived of it this year.

But, unless I am favoured by a generous response to this appeal, our Funds will not allow of this gracious and friendly act.

Will every reader of this letter please consider if he or she cannot send to the Honorary Treasurer, Royal Medical Benevolent Fund, 11, Chandos Street, London, W.1, a Christmas Donation.

I shall be grateful whether the Donation be large or small.

Yours, etc.,

THOMAS BARLOW,

President.

Guy's Hospital Reports, Vol. 79 (Vol. 9, Fourth Series), No. 3. July, 1929. *Price* 12*s.* 6*d.*

THE current issue of the *Guy's Hospital Reports* fully maintains its usual high standard of interest. It contains, in addition to a brief biography by Dr. Fawcett of Dr. Newton Pitt, who was known to most of us by repute, if not personally, a most interesting article by Dr. Campbell on the Etiology of Auricular Fibrillation, illustrated by many excellent electro-cardiograms. The cases described consist of 100 consecutive cases of auricular fibrillation sent to the Cardiological Department at Guy's Hospital, and would thus seem to be about as representative a series as can be obtained. The general deductions drawn are that about half the cases of auricular fibrillation in hospital practice in London are rheumatic in origin, a tenth of thyroid origin, and most of the remainder due to atheromatous changes—this last finding being a distinctly surprising one to the uninitiated.

Nearly 30 pages are devoted to the Clinical Report of the Guy's Hospital Maternity Department. While the material afforded by the massive tables given will doubtless be of great value to experts, we confess that we found them unreadable.

A long and interesting article on the Clinical Differentiation of Types of Depression by Dr. Gillespie, illustrated by illuminating cases, gives the results of a prolonged, careful research on these cases.

An excellent article on Congenital Abnormalities of the Urinary Tract, by Mr. A. R. Thompson, continuing a previous article on Horseshoe Kidney and Solitary Kidney, is founded on 13,000 cases of all diseases coming to post-mortem.

The volume is completed by a most interesting set of cases from the Medical Out-Patient Department collected by Dr. E. C. Warner, the Report of the Diphtheria Carrier Clinic (recommending Schick-testing and immunisation as an altogether better procedure than the use of Out-Patient Clinics—a counsel of perfection requiring a more enlightened age, we fear), and last, but not least, a preliminary communication by Dr. Oriel on the Urinary Proteose discovered by him in certain cases of disease. We shall await further communications on this peculiar substance with great interest.

Mental Disorders. By HUBERT J. NORMAN, M.D., Ch.B. (Edin.), D.P.H. (Edin. and Glas.). Published by Messrs. E. and S. Livingstone. *Price* 14*s. net.*

IN his preface to this book Dr. Norman gives as his excuse for writing on Mental Disorders the desire to show old matter from a new angle. Consequently he avoids, as much as possible, of controversial matter, though one would suppose it difficult to do this when dealing with a subject so full of controversy. However, he does succeed in producing a book which is easily readable—not a quality shared by all books on psychological medicine—though the information appears to come rather disjointedly in places. The student in reading this book must, in most cases at any rate, be up against the difficulty of picturing in his mind the different clinical types described for him, since the descriptions appear to take for granted a clinical acquaintance with the cases in the flesh, an advantage which a large number of students lack.

The book is divided into two main sections. The first, which deals with clinical aspects of psychiatry, includes chapters on disorders associated with constitutional instability, those associated with psycho-neuroses, and finally, symptomatic or associated disorders. The second half of the book deals with the historical, psychological, pathological, therapeutic and legal aspects, and includes in particular an interesting chapter on clinical types in life and literature. Finally, an appendix is added and includes a few accounts of unusual or exotic forms of mental disorder with clinical examples and a rather pointless graphic representation of the phases in mania, melancholia and manic-depressive insanity.

There are some very clear illustrations, and, as is usual with books published by this firm, the production, paper and print, are excellent. The price, we consider, a little excessive.

Sport

Rugby

Guy's v. Coventry

AT Honor Oak Park on Saturday, November 9th, Guy's entertained their old friends Coventry, and after a very exciting and even match, were defeated by a placed goal, a penalty goal and a try (11 points) to two tries (6 points).

Despite the fact that they had been badly hit by injuries, our visitors were able to field a very strong side which included in a formidable pack the names of Pugh, Coulson and Ford, all internationals.

It was a perfect day and the conditions were ideal for a good game.

After having the major portion of the play in the first half, when they established a lead of 11 points, Coventry were for a considerable time in the second period overwhelmed by the fine rushes of the Guy's forwards. However, in the last minutes of the game, Coventry assumed the upper hand and were unlucky not to score. Coventry were the first to attack, and from an easy position Bonham kicked a penalty goal.

The visitors' pack were receiving the ball regularly in the scrums and Bonham was given many opportunities of setting his threes in motion. The Guy's tackling was very sure, and as a result, very little advantage could be gained. On one occasion Fichardt intercepted a pass and managed to get clean away, but he was tackled and his pass went astray.

The visitors' pack resumed the attack, and Kingston made an excellent attempt to drop a goal, but Morgan relieved with a fine dribble and found touch at half-way.

After the ball had been carried to Coventry's 25, Wailer attempted a drop at goal which Pitcher accepted and running strongly found touch in our 25.

An excellent round of passing between the Guy's backs made Coventry defend again, but Bonham intercepted, and running very cleverly, created an opening for Kingston who had no difficulty in scoring a try which Bonham converted.

Soon afterwards Wailer saved a certain score when he checked the Coventry forwards who had the line at their mercy.

Before half-time a splendid passing movement between Gascoigne, Bonham, Ford and Coulson resulted in the latter scoring too far out for Bonham to convert.

Guy's made a great recovery in the second half, and in the first five minutes reduced the lead with an unconverted try. After a good run by Atkins, who drew the defence, Robinson received the ball at the right moment and scored in the corner.

A little later Wailer, receiving in midfield, started an excellent movement between the threes and the ball travelled via Thomas and Atkins to Robinson who again registered a try, too far out for Hogbin to convert.

Guy's were now playing with splendid resolution, and should have scored on at least two occasions, but fate was against them, and this was emphasised when Hogbin missed a penalty kick from an easy position.

Towards the finish Coventry resumed the offensive, but no further score resulted.

Team—L. Wailer; T. G. Robinson, T. Fichardt, H. J. B. Atkins, A. J. D. Lewis; I. K. Thomas, J. Howell; R. A. P. Hogbin, C. D. Malone, T. Morgan, J. S. Batchelor, D. S. Clogg, G. F. Lashmore, J. Kunovsky, J. A. T. Rowlett.

Guy's v. Old Leysians

ON Saturday, November 16th, Guy's visited the Old Leysians at Wandsworth Common and succeeded by a try (3 points) to nil.

The conditions were deplorable and the ground was a quagmire as the result of rain which fell heavily throughout the game. With a cold wind blowing in addition, accurate handling of the ball was almost impossible, and yet at the start Guy's played to their backs and continued doing so for quite an appreciable time.

The Hospital pack again played a magnificent game and were complete masters both in the scrums and in the loose. As the result of their efforts, the Old Boys were kept defending their line in their 25 for three parts of the game. However, the Old Leysians put up a splendid resistance and defended desperately throughout.

Time and again in the second half, Guy's kept the game for considerable periods within a few yards of their opponents' line, yet, except upon one occasion, the pressure was successfully resisted.

The Old Boys could accomplish little in attack, and yet in the opening half they came within an ace of scoring on two occasions.

On the first occasion, Kilner, who showed a fine turn of speed, was nearly over the Hospital line when he was pushed into touch, and on the second, the same player had a splendid opportunity of kicking a penalty goal.

On the change of ends the Leysians were entirely on the defensive, and try as they might,

Guy's could not cross the line, except in the one instance when I. K. Thomas managed to get over.

Team—L. Wailer; A. G. Johnson, A. J. D. Lewis, H. J. B. Atkins, T. G. Robinson,; I. K. Thomas, J. Howell; J. R. F. Popplewell, C. D. Malone, J. S. Batchelor, T. Morgan, J. Kunovsky, R. A. P. Hogbin, G. F. Lashmore, D. S. Clogg.

Guy's v. Old Alleynians

PLAYING at home on Saturday, November 23rd, Guy's after establishing a lead of six points, had to admit defeat by two placed goals and a try (13 points) to a dropped goal and two tries (10 points).

The Old Boys were a trifle fortunate to secure the verdict as at least one of their tries had an element of doubt, and on the other hand, owing to their superiority in the first half, Guy's should have built up quite a substantial lead at the interval.

Despite the weather conditions, which were all against good football, both teams gave a delightful exhibition which roused the enthusiasm of the spectators who braved the elements.

The greater portion of the first half was devoted to a struggle between the forwards, in which the Guy's pack completely mastered the Old Boys' eight. The backs had sufficient opportunities to establish a winning advantage, but the only scores came from two tries scored by Robinson a quarter of an hour after the start. The halves, Howell and Thomas, who had an excellent understanding, were far more effective and were constantly opening up the game for the threes.

Wailer was a tower of strength at full back, and in the second half in particular, he tackled fearlessly whilst his kicking was perfect.

After Robinson had scored the tries for Guy's, Andreae, the Old Boys' scrum half, managed to scramble over for an unconverted try just before the interval.

A complete change came over the game in the second half, and for a time, Guy's had to defend desperately. During one of the Old Boys' raids, D. Jenkins sent A. E. Wood away on the wing, and running very strongly the latter touched down behind the posts for Heppenstall to convert.

A few minutes later, the best movement of the game, in which the whole three-quarter line joined, ended when Pettifer sent Osborne over for a third try which Heppenstall again converted.

Towards the end, Guy's attacked, and receiving the ball in a favourable position in front of the posts, I. K. Thomas dropped an excellent goal.

Despite the efforts of the Guy's pack, no further scoring resulted and the Old Alleynians won as stated.

Team—L. Wailer; T. G. Robinson (Capt.), H. J. B. Atkins, A. J. D. Lewis, A. G. Johnson; I. K. Thomas, J. Howell; J. R. F. Popplewell, C. D. Malone, R. A. P. Hogbin, J. S. Batchelor, T. Morgan, G. F. Lashmore, J. Kunovsky, D. S. Clogg.

Association

Guy's v. Old Wellingburians

GUY'S were the visitors to Wellingborough on Wednesday the 30th October, where they met the Old Wellingburians. The ground was in good condition, but the game was rather spoiled by a strong wind and a tendency to rain.

Guy's faced the wind during the first half, but had the advantage of a slight slope. The game opened at a fast pace, the ball travelling from end to end without any score being registered. Guy's were unlucky on at least two occasions, while the Old Boys went close several times, Evans once making a particularly fine "save." A few minutes before half time C. H. Fagge was forced to retire with a damaged knee.

Guy's were fortunate in being able to start the second half with a complete team, the Old Boys providing a substitute. The two teams were very evenly matched and no scoring resulted until ten minutes from time when, following clever play on the right, the Wellingburians scored. Almost immediately after, however, Edwards equalised from a pass by Fitzgerald. Soon after this, a clever pass to Small resulted in his getting clean through to give Guy's the lead. The Old Boys tried hard to save the game, but the end came with Guy's somewhat fortunate winners of a well-contested game by 2—1.

Team—E. Evans; B. Holden, D. Smallshaw; A. Cantor, E. J. Stubbs, C. H. Fagge; J. Fitzgerald, E. Sharp, H. Edwards, C. Wood, J. Small.

Guy's v. H.A.C.

THE H.A.C. were the visitors to Honor Oak Park on Saturday, November 2nd. It was a fine day, the ground was in good condition and a keen game was expected.

The game opened at a somewhat slower pace than any of the previous games of this season, and after about ten minutes play, it was obvious that the H.A.C. were not the equals of Guy's in either pace or team work. Most of the play took place in the Company's half, and Small soon gave Guy's

the lead following a centre from Fitzgerald. A few minutes later Small scored again, also from a pass by Fitzgerald. Just before half-time Edwards scored a third goal for Guy's.

The second half commenced with some fierce rushes by the H.A.C. forwards, and it seemed as though they were going to make Guy's fight for it after all. These attacks soon faded away, however, and from then on, the Guy's men did almost as they pleased. Edwards scored a fourth goal, but Guy's were never fully extended, and the end came with Guy's easily victors of a somewhat disappointing game by 4—0.

Team—E. Evans; D. Smallshaw, G. Brummitt; A. Cantor, E. Stubbs, B. Holden; J. Fitzgerald, E. Sharp, H. Edwards, I. O. Jones, J. Small.

Other results—November 9th *v.* St. Alban's at Honor Oak Park, 6—0.

November 16th *v.* Old Brentwood's at Honor Oak Park, 4—2.

Golf

Guy's v. Bart.'s

Semi-Final Round

THIS round was played at West Hill on Wednesday, November 13th, and proved to be a very thrilling match, the final result being a draw. After the foursomes, which were played in the morning, we retired to lunch all square. In the afternoon singles, we each won four matches. The weather, although cold, was kind, and the course was playing in "tip-top" condition. A very enjoyable day was enjoyed by all. W. J. Cotton and W. L. Mountain must be congratulated on their good play, each winning both their morning and afternoon matches.

Results— *Guy's.*

FOURSOMES.

P. H. Lomax, W. Lewis		0
H. Cameron, W. J. Cotton	1 up	1
H. B. Thornton, W. L. Mountain	3 and 2	1
K. Whitworth, W. Pilcher		0
		2

Bart.'s.

N. F. Kendall, C. M. Carr	2 and 1	1
E. K. Hole, A. R. Cutlark		0
R. Gordon-Williams, W. Wilson		0
L. P. Jameson-Evans, E. W. Wedd	4 and 3	1
		2

Guy's.

SINGLES.

W. Lewis	0
H. Cameron	0
P. H. Lomax	0
H. B. Thornton	0
W. J. Cotton, 5 and 4	1
W. L. Mountain, 2 and 1	1
K. Whitworth, 2 and 1	1
W. Pilcher, 2 and 1	1
	4

Bart.'s.

N. F. Kendall, 2 and 1	1
C. M. Carr, 6 and 5	1
E. K. Hole, 4 and 2	1
R. Gordon-Williams, 1 up	1
A. R. Cutlark	0
W. Wilson	0
L. P. Jameson-Evans	0
E. W. Wedd	0
	4

Total Result: A Draw, 6 matches all.

Hospital Information, etc.

Pass List

SOCIETY OF APOTHECARIES.

October, 1929.

Forensic Medicine.

*C. Hortop. A. D. H. Hugo.
T. G. Robinson.

Midwifery.

C. E. P. Davies.

*Has now completed the examination.

CONJOINT BOARD, PRE-MEDICAL EXAMINATION.

September, 1929.

Chemistry, Physics and Elementary Biology.

A. R. Gillies. *H. Burch.
H. Kanter. *R. J. Cowling.
*T. D. H. Ridsdale. *J. A. G. Starnes.
J. A. T. Rowlett. *R. Pepperdine.
*D. P. Walther. †C. L. Stevens.
*J. C. Wallis.

*Chemistry only. †Elem. Biology only.

L.D.S.

G. E. King-Turner.

FIRST PROFESSIONAL EXAMINATION.

September, 1929.

PART I.

Dental Mechanics.

J. K. Donald. S. J. C. Knott.
D. J. Rees. A. C. R. McLeod.
R. W. F. Brotherton. L. R. Millership.

R. W. Brownlie.
G. B. Brummitt.
F. W. Clare.
J. E. Darlow.
R. J. G. Grewcock.
L. P. Harte.
J. T. Holford.
A. W. Holman.
C. L. Hudson.
C. V. Kark.
C. G. O. Nevard.
C. W. T. Shuttleworth.
L. H. Smith.
J. G. Spiller.
J. H. Timpson.
U. L. W. Whitling.
E. V. B. Widdowson.
I. D. Williams.
F. R. M. Willis.
J. H. de Mierre.

PART II.
Dental Metallurgy.

D. J. Rees.
J. H. de Mierre.
A. E. Williamson.
L. Z. Cosin.
C. C. R. Mailer.
V. P. Betts.
R. S. Bruce.
R. W. Ross.
J. T. P. Cullingford.
J. C. Fry.
S. S. Gill.
G. G. Hardie.
H. N. V. Hathorn.
E. R. Heathcote.
B. Law.
E. H. Lewis.
E. Matthews.
C. G. Palmer.
W. F. Rose.

PART III (*a*).
Anatomy and Physiology.

J. E. Darlow.
C. L. Hudson.
S. J. C. Knott.
C. G. O. Nevard.
G. W. B. Bateman.
F. J. Bloor.
C. K. Brown.
R. L. Etheridge.
D. A. Fairfax.
J. H. G. Fensom.
H. Gibbs.
F. C. Hampson.
C. J. Hartley.
H. Kanaar.
L. G. Lyle.
D. K. Ness.
J. F. Paterson.
H. J. Redman.
P. K. Robinson.
L. B. Somerville-Woodiwis.
H. A. Stanger.
J. H. Stevens.
H. V. Sydenham.
G. L. Thurston.
H. C. Tippett.
A. W. Turner.
W. E. A. Watson.

PART III (*b*).
Dental Anatomy Physiology.

D. S. Wilson.
R. N. Hines.
H. C. Norman.
K. E. Pringle.
K. P. Smith.
K. W. Whitworth.

FINAL EXAMINATION.
November, 1929.
PART I.
Surgery.

C. E. W. Kurtz.
O. Lyth.
S. C. S. Brown.
G. R. G. Druce.
S. C. Holms.
H. M. Selmann.
L. Symonds.
T. D. Wren.

PART II.
Dental Surgery.

O. Lyth.
J. R. Cohen.
A. F. de Villiers.
W. H. Dodd.
W. F. H. Frost.
E. J. F. King.
J. C. McNeill.
C. A. Palk.
W. H. H. R. Smithurst.
R. W. Stevens.
A. G. Taylor.
R. J. Wheatley.
I. C. Wilson.
C. J. Woodcock.

UNIVERSITY OF CAMBRIDGE.
Master of Surgery.
John Gray.

UNIVERSITY OF LONDON.
Faculty of Science.
E. Matthews.

CONJOINT.
October, 1929.
SECOND EXAMINATION.
Anatomy and Physiology.

J. P. Fitzgerald.
*A. G. Johnson.
A. G. Potts.
*L. Stoll.
†G. J. Evans.
*H. M. Hodgkin.

Pharmacy and Materia Medica.

W. L. James.
J. C. Wharton.
J. S. Batchelor.
V. Constad.
W. V. D. Bolt.
M. J. Garber.
L. E. A. Dearberg.
W. J. Stanford.

*Anatomy only. †Physiology only.

FINAL EXAMINATION.
Pathology.

B. Southwell.
J. M. Robertson.
G. P. B. Whitwell.
N. S. Plummer.
J. Carlton.
T. G. Robinson.

Medicine.

R. G. Sowter.
R. S. Harrison.
*V. W. L Wells.
F. J. Napier.
L. K. Robson.
*E. Bellamy.
*F. S. C. Pritchard.
*L. Gabbe.
*J. C. T. Tregarthen.
*A. Eckford.

Surgery.

*E. Bellamy.
*E. M. MacLachlan.
H. J. Croot.
*I. B. Morris.
*D. K. Gaitskell.
*G. J. Clarke.
*K. S. Keele.
*T. B. Pitts.
F. H. Stevenson.
F. W. Chippindale.
P. V. Reading.
L. D. Pringle.
L. V. O. Brown.
C. G. S. de Silva.
B. R. Medlycott.

Midwifery.

E. H. Rink.
R. S. Harrison.
J. M. Durr.
F. J. Napier.
H. C. Muirhead.
W. M. Smith.
*E. M. MacLachlan.
H. J. Croot.
W. J. Johnson.
A. L. Thomas.
B. Southwell.
D. Divine.
R. B. Peckham.
T. C. Outred.
A. C. Price.
J. M. Robertson.

*Have now qualified.

SOCIETY OF APOTHECARIES.
November, 1929.
Surgery.
W. J. D'Rosario.
Midwifery.
W. J. D'Rosario.
A. D. H. Hugo.

Change of Address

Dr. J. P. Pendlebury, 9, Campden Hill Gardens, Kensington, W.8. 'Phone, Park 1760.

T. J. Barnes, L.D.S., 374, High Street, Rochester, Kent. 'Phone, Chatham 2566.

L. Parke Tupling, 45, Wimpole Street, W.1.

Appointment

THE SERVICES.

H. L. Belcher, Surg.-Lieut. R.N., appointed to *H.M.S. Daffodil*, from 5th December, 1929.

Birth

JEFFREY—On November 6th, 1929, to Beatrice J. (née Bailey) wife of John G. A. Jeffrey, M.C., B.Sc., Seikkiji, Rangoon, a son (still born).

EDS. {E. T. C. / J. B. B.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

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Volume XLIII 14*th December* 1929 *Number* 1080

PASSIM

IT is with the deepest regret that we record the passing of one whose public work accomplished a very great deal for the Voluntary Hospital System and whose private benevolence and administrative gifts were particularly concerned with the welfare of the Hospital founded by Thomas Guy. A general Court of the Governors at a meeting on December 9th, expressed itself as having "learnt with the deepest sorrow of the death of Sir Cosmo Bonsor, Bart., a Governor of the Hospital for forty-seven years, Treasurer from 1896 to 1910, and President from 1910 to 1919, who, by his wisdom, generosity, kindliness and unfailing humanity endeared himself alike to his fellow Governors, the medical, surgical and administrative staff, the nurses and patients."

The Court also wished to place on record "their high appreciation of the unequalled services rendered to the Hospital by Sir Cosmo Bonsor during the long years of his Governorship, their abiding memory of so beloved a friend and counsellor, and their deep grief at the loss of a great Treasurer of the Hospital." We understand His Royal Highness the Prince of Wales to have signified his desire to be associated with this Resolution, a copy of which has been sent to the Dowager Lady Bonsor. A full obituary follows on another page.

THE award of a Nobel Prize to Sir Frederick Gowland Hopkins forms a most gratifying recognition of his important work in connection with accessory food factors and the complex substances concerned in tissue oxidation. Although not the only Guy's man to attain the distinction of a Fellowship of the Royal Society, Sir Gowland Hopkins is quite certainly the first to gain the most coveted among the world's scientific prizes.

BLOOD transfusion, while losing some of its more sensational attributes as a life-saving measure in surgical emergency, now ranks as a definite and justifiable line of treatment in several medical conditions. The number of calls on voluntary donors has, in consequence, enormously increased within recent years, and we doubt whether it is fully realised to what extent the members of the British Red Cross Transfusion Society have managed to cope with the ever increasing strain on their resources. It is, we are informed, certainly rare even now that they are unable to provide a donor for the patient who has no suitable friend or relative willing to help him. The amount of organisation necessary to get together a donor's panel of sufficient size to stand up to continual calls from the voluntary hospitals in the South London area alone must be very great indeed, and we should like to congratulate the Secretary, Mr. Oliver, on the undoubted success of his efforts in this connection. His propaganda must penetrate into all walks of life, and we understand that the odds on a *debutante* turning up in response to any one call are about equal to those on the appearance of a Rover Scout, and that after the first experience there is no trouble in persuading either of them to come again. The placation of employers must be among the most difficult part of Mr. Oliver's work, but he may rest assured that he has no thankless task in hand, and that his efforts are more than appreciated by the resident staff of those institutions so faithfully served by his Society.

Fortune, up to date, has smiled upon the arrangements for the coming Residents' Annual Ball. Mrs. Mollison has very graciously consented to act as hostess for the occasion; the venue is again to be May Fair Hotel, which last year proved so well able to fulfil all requirements, and lastly, Ambrose and his Band have been engaged for the evening. It only remains to say that the date is Tuesday, 21st January, the time 9.30 p.m. to 2.30 a.m., and we feel sure that Guy's men, past and present, will shortly besiege sellers for tickets.

The following appointment has been made:—

House-Surgeon in the Ear, Nose and Throat Department (to Mr. Mollison)—

Mr. H. B. A. R. Densham.

We learn that Mr. E. H. Sears has retired from the position of President of the Residents. An election was held, and Mr. T. T. Stamm was elected as President, with Mr. E. R. Mellon as Vice-President.

In a previous issue we announced that in addition to the four new photogravures of the Hospital then put on sale, a series of five etchings was in course of preparation; two of these also may shortly be obtained, either from the Wills Librarian, or by post from the Manager, Gazette Office, Guy's Hospital. They should prove of interest to many, especially those who have now left Guy's, and should make excellent Christmas presents. Further information may be found in the advertisement pages of this number.

Obituary

SIR HENRY COSMO ORME BONSOR, BART.

With the death of Sir Cosmo Bonsor there has passed away a great Treasurer of Guy's Hospital, who, in the words of the Resolution passed by the Court of Governors on Monday last, "by his wisdom, generosity, kindliness and unfailing humanity, endeared himself alike to his fellow Governors, the medical, surgical and administrative staff, the nurses and the patients."

It is well nigh impossible for this younger generation to realise what Sir Cosmo Bonsor did for Guy's Hospital, but those who have been connected with the Hospital for the last thirty years, will know that Guy's Hospital as it stands to-day, is practically his monument. It is almost entirely due to him that the Hospital has attained, in these days, its material efficiency and happy atmosphere.

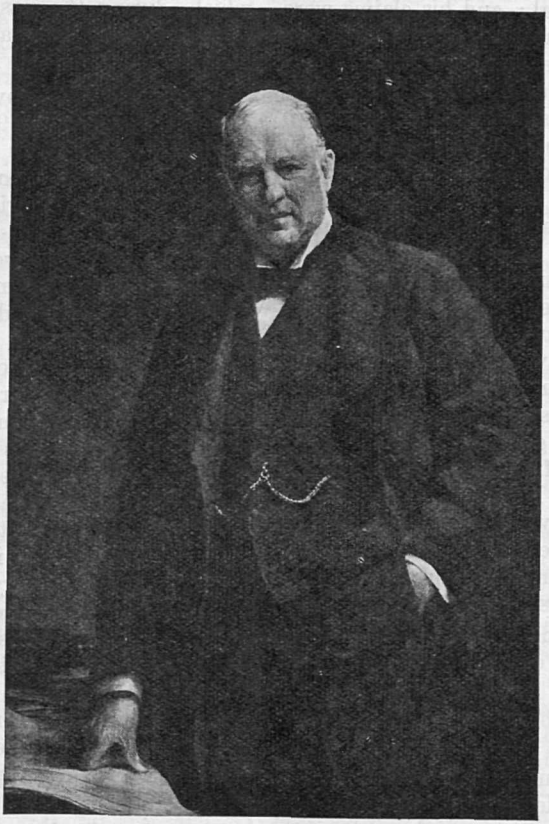
No one who lived at Guy's Hospital at that time can forget the new breath that circulated through the colonnade, the corridors, and the wards of the Hospital in the last decade of the nineteenth century when Sir Cosmo first became Treasurer. In the preceding twenty-five years the Hospital had been practically dormant, living in its old ways and in its old buildings, becoming reactionary and sterile, with little vision and not much enthusiasm. Sir Cosmo's burly figure and round cheerful face put new heart into everybody who was working at or for Guy's. He knew everybody and forgot no one. He was interested in everyone and had a word of appreciation and encouragement for all from the consulting staff down to the youngest student or probationer that he met in the wards.

The great secret of his success at Guy's was his unfailing thoughtfulness for everyone, and his interest in every Hospital activity. His generosity was unbounded, and the amount of his benevolence was only equalled by the unassuming and unostentatious method of distributing it. If the nurses wanted anything for their cottage at Honor Oak Park, or for any of the activities of the Nurses' League, Sir Cosmo would drift into the Matron's Office, ask how much was wanted, and then and there sit down and write a cheque.

He always remembered the Residents at Christmas time, and his last act this year before leaving for the South of France, from which he was never to return, was to come to the Hospital and leave his usual cheque for the Residents' Christmas Dinner and for the Christmas Ward Fund of every Sister.

Every meeting of the Court of Governors, every Hospital Dinner, every Meeting of the Nurses' League was made the happier and the kindlier by his presence. On every occasion he would get up and with a few direct simple words diffuse an atmosphere of broad humanity and common sense, and nobody who saw him at any of these intimate family gatherings at the Hospital ever went away without a growing affection for the kindliest old gentleman that ever walked.

As *The Times* quite rightly said in its obituary notice, his frame, big and burly as it was, was not big enough for his heart. In all his dealings with everybody in the Hospital he had that influence that can only come from one who is far above all pettiness, and whose heart is consumed with a real love for his fellow creatures.



Sir Henry Cosmo Orme Bonsor, Bart.

He brought into all his dealings the same personal touch. No one ever got a letter from Sir Cosmo Bonsor that was not written in his own handwriting, and those who worked with him in the actual administration of the Hospital could never cease to marvel at the way in which in the middle of a busy and talkative meeting he could sit down and write a letter that could not be improved upon either in form or substance and that would often turn a difficult corner in a debate or change a complaint against the Hospital into a donation.

Sir Cosmo Bonsor first became a Governor of the Hospital in 1882, and until his last days he never forgot the harm that was done to the Hospital in 1879 and 1880 by the famous "Nursing Row" when the whole Hospital was put into a turmoil by a Matron, who was not exactly blessed with tact, trying to do the right thing in the wrong way.

The seeds of the modern nursing practice in Guy's were sown by that Matron, but in doing it, she nearly wrecked the Hospital, and the acute dissensions between the Governors and the Staff were only ended by the resignation of one or two members of the Staff.

From that date Sir Cosmo Bonsor never wavered in his acute interest in everything that concerned the Nurses, and in this connection he had an equally generous colleague in the late Lord Revelstoke. The Nurses almost more than any other body of persons in the Hospital have reason to grieve for his loss.

In 1896, Sir Cosmo, at the personal request of the then Prince of Wales, the late King Edward VII, accepted the Treasurership of the Hospital, and he immediately started to reorganise the Hospital finances and to put them in such a sound position that Guy's could not only merely carry on its work, but also could extend to meet the growing needs of the times.

Sir Cosmo Bonsor threw himself into the task of rehabilitating the Hospital with great energy, and in his efforts in that direction he was nobly supported by the two other members of that great triumvirate Sir Cooper Perry and Sir Alfred Fripp, who, each in his way, gave their Treasurer in his invaluable assistance to great appeal.

Immediately Sir Cosmo Bonsor was appointed Treasurer, the President of the Hospital, the late King Edward VII, inaugurated an Appeal for the further endowment of the Hospital. This Appeal was immediately successful, and the collection of £114,347 for the new Re-endowment Fund was announced at a Festival Dinner in June, 1896, the sum thus announced being the largest that had ever been collected previously at any charitable dinner.

Sir Cosmo Bonsor then took in hand practically the whole renovation and reconstruction of the Hospital. The Nurses' Home was built and opened in 1902, the Wards were redecorated and refloored, the closed Wards were opened and in every fresh venture that was started for the improvement of the Hospital, Sir Cosmo was always there, full of resource and full of courage.

In the years of the great Appeal, Sir Cosmo Bonsor walked up and down the City and personally interviewed everybody he could get hold of to beg for money for the Hospital; and his claims were usually irresistible because he always set the example of an unfailing personal generosity.

The Re-endowment Fund which Sir Cosmo Bonsor started reached its half million point two years ago, and though the War and the alteration of all social and economic values have presented fresh financial problems for the Hospital, the Re-endowment Fund remains a lasting monument of his Treasurership.

One hopes that Sir Cosmo knew how much he was beloved by everyone at the Hospital. No one certainly ever attempted to disguise their pleasure whenever they saw him, and never in this generation has the passing of a member of our Hospital Community caused such a spontaneous and sincere expression of grief.

And now at the age of eighty one, Sir Cosmo Bonsor has died at Nice, has been brought home to Kingswood, and has given :—

> " His body to that pleasant country's earth,
> And his pure soul unto his captain Christ,
> Under whose colours he had fought so long."

His memory remains enshrined in the fabric of Guy's and in the hearts of the multitude of his friends.

To the *Times* of December 10th, 1929, Sir Alfred Fripp writes :—

This is not the place, nor have I the qualities necessary, to write an adequate account of what Sir Cosmo Bonsor's benevolent work has meant to the voluntary hospital system and incidently to the advancement of several branches of the work essential to the proper functioning of our profession. I am sure, however, that Guy's men and women scattered all over the world will be grateful if you will add to your notice of last Friday a short expression of the reverence and love we all felt for him, by one who was associated with that work for more than 40 years.

Sir Cosmo was senior Governor, having been elected in 1882. He took office as Treasurer in 1896 by the personal request of our first Royal President, King Edward, then Prince of Wales, just before the fund which bears his late Majesty's name was inaugurated. He found the old foundation of Thomas Guy seriously threatened by shrinkage of income, consequent upon the agricultural depression. Wards were being closed for lack of funds. By a bold reliance upon his conviction that the public had only to be told the need, he initiated a line of policy which resulted in his seeing accomplished, not only the restoration of Guy's to its original functional capacity, but, in addition, the complete modernization of all its old buildings, and its extension to provide for the needs of the various branches of scientific work which, during the past half-century, have made such heavy additional demands upon hospital finance.

Bonsor led the movements which resulted in the full fruition in 1925 of the plans Guy had originated 200 years earlier; and the proud position it occupies among the hospitals to-day stands as his memorial. Yet so generous, unselfish, and even self-effacing were his methods that this part of his work was little known to the public. It is almost incredible, and certainly not widely realized, what demands are made upon the time and energy and pocket of those who thus devote to the running of a great hospital such time as they can spare from their personal affairs. The effect of this unremitting toil and gifted insight into human nature has borne fruit over a far wider field than that of the institution primarily concerned, for it has had a very considerable influence upon the many important and intricate questions which are summed up in the phrase so well known to-day as the Voluntary Hospital Principle. Thus but for him the evolution of the nursing profession, in which England has led the world, would not have gone forward with such satisfactory pace as it has done during the past 40 years. One of the chief epochs in the process was marked by the pioneer effort displayed by the building of the first really well-equipped resident home for the nursing staff. The same might be said of his contribution to the dental profession, for here again it was his knowledge of finance and of organization which enabled the Dental School to come into existence, and to win its way to the very top. Exactly the same might be said of the Massage School, so that his tenure of office as Treasurer saw the establishment and the attainment of eminence by these three new and essential schools grafted on to the older foundation in which Thomas Guy had envisaged only the teaching of medicine and surgery.

He seemed thoroughly at home in any position in which one chanced to find him—at the board-table, at his club, as chief actor at some public function, or as a free man enjoying himself at the headquarters of one of the sports he loved, or in

the home circle he loved best of all. An optimist of the best sort because a practical one, so obviously honest, and simple, and genuine. He always appeared to be care-free, "on top," and helping others over the difficulties they could not see through. An ideal head of any table, with a confidence and *flair* for success, so disarming to any adversary, so heartening to any ally, and therefore a great leader. And a consummate chairman, whose awareness endowed his conduct with that inevitableness which is the attribute of any really great artist. He formed and expressed a decided opinion upon each and every question. By nature courageous, loyal, open-hearted, and open-handed, he had by training become open-minded also, so he was always accessible, always ready to learn from others, except the fanatics and the petty-minded. He would handle a difficult meeting or a difficult individual with equal ease and grace. He had an instinctive distrust for the 'talkers in corners,' and a keen eye for honesty, straightness, and ability, whether in his own camp or that of the opposition. Of many a man it has been remarked that he never said an unkind word, but of few can it be added with so much truth that never during his life-time was an unkind word said about him. These qualities enabled him to face and carry through with singular success many a delicate situation such as is bound to arise in the management of a modern hospital, for we all realized that he was the friend of each of us, the enemy of none.

When troubles came he showed fresh depths of feeling, and when a few years ago infirmities began and drove him to seek the advice of one and another of the hospital staff, each member who had the honour of being called into consultation found that more good had accrued to him from the example of the patient than the patient had derived from the service of his doctors. Indeed, he would have proved a great healer himself, a well-beloved physician, so human, so kind, so understanding. He had so many attributes of greatness, including the capacity for taking infinite pains over even the smallest points that seemed to him essential, and of bringing his infinite kindness to the aid of even the lowliest of his friends. 'Dare quam accipere' is the motto of the hospital he loved to serve, and in very truth his life exemplified the meaning. He was ever a giver rather than a taker. The good genius of our house, we all feel as though we had lost a great father, and life will be more difficult now that we have to get on without even his counsel."

Treatment by Massage and Gymnastics

A Lecture-Demonstration by Dr. Douthwaite and Miss Angove

GENTLEMEN,—We intend showing you to-day some of the work which is carried out in our Massage Department. As you well know, many cases of chronic illness burden our Out-patients, and are, from time to time, shelved to the masseuse with the request "Please massage." Mere massage is seldom used in the treatment of any disease, but, if it be combined with remedial exercises and manipulations, intelligent application will convert, for instance, a visceroptotic misery into a useful member of the community again. The reason, then, that our Out-patients are not clogged by the accumulated "chronics" of past years is that these individuals are cured in the Massage Department.

"Sister Massage" will commence by explaining the technical terms in common use, and then demonstrate the methods which are employed to alleviate or cure various diseases.

Under the heading "massage" come all the passive movements for the soft tissues and for the joints; and under the heading of "active movements" fall the various exercises for putting muscle into action, whether the patient performs these alone (free movements), or whether you lend aid to the muscular action (assisted movements), or add resistance to the limb (resisted movements).

Massage to the soft tissues consists, in the first place, of effleurage. The operator stands on the same side of the patient as the limb on which she is working. Effleurage is done in the direction of the venous return. It consists of a centripetal, stroking movement, with firm, even pressure; the hands are then relaxed and brought down in light contact with the limb. Often you see it done in *this* way, taking the hands off at the upper limit, then starting again below. That method has its value, but it is not so rhythmic and even as is the first movement.

Under the heading of stroking come all the soothing movements, which are done in the direction of the arterial flow or in the direction of nerve impulses. They are performed centrifugally. That is a different movement from effleurage, and it is given only in cases of nervous excitement. We do not use it very much; but employ it occasionally for insomnia.

In petrissage there are various movements. The most useful one is kneading, with the body absolutely relaxed, alternating with a rolling

movement of the soft tissues. The second movement is a " picking up " action, and can be done either with one or both hands working on the subcutaneous tissues and underlying muscles. Frictions are carried out on structures about the joints, and are not used where the articulations are actively inflamed, or where an acute inflammation is subsiding. They are particularly useful for dealing with adhesions in or about joints which have been the subject of trauma. They are not employed on the rheumatoid joint, which is, on the other hand, moved actively, whilst the muscles above and below are treated with massage. Frictions are localised circulatory movements, and are performed with the pads of the fingers, thumb or palm of the hand.

Under the heading " tapotement " are grouped the various forms of striking the muscle (demonstrated). They are only used for stimulating purposes and produce local hyperæmia in the limb.

Of vibrations there are numerous forms. They may be in the natureof a simple shaking movement, or of a strictly localised vibration ; or one may make the movement larger and larger to the development of a true shake. If you are an artist at vibration you can transmit it through a row of seven or eight people.

Cyriac, the great vibrator, can produce this effect through about a dozen people, which means, of course, that his vibrations are very rapid and effective. The work is hard, and the operator must avoid holding the breath, as this greatly increases the strain.

DISEASES OF MUSCLE AND JOINTS.

There are various forms of passive movement. First, there is that, when the patient is absolutely relaxed, in which the joint is moved by an outside force. The structures immediately above and below the joint are gripped, the actual movement depending on the particular joint involved, the shape of the articulating surfaces being borne in mind. For instance, in the case of the metatarsophalangeal joint of the big toe, one often observes the toe being moved up and down, with no reference to the circulatory movement rendered possible by the rounded head of the metatarsal.

Another type of passive movement has, as its object, a stretching of contracted muscles and ligaments related to a joint. The method is well illustrated in this case (pseudo-hypertrophic muscular dystrophy).

You will observe the great size of the glutei (Fig. 1), which are, nevertheless, weak and unable to maintain the normal stance. This patient was constantly falling down because the centre of gravity of her body is displaced with secondary contraction of the hip flexors. It is noticeable

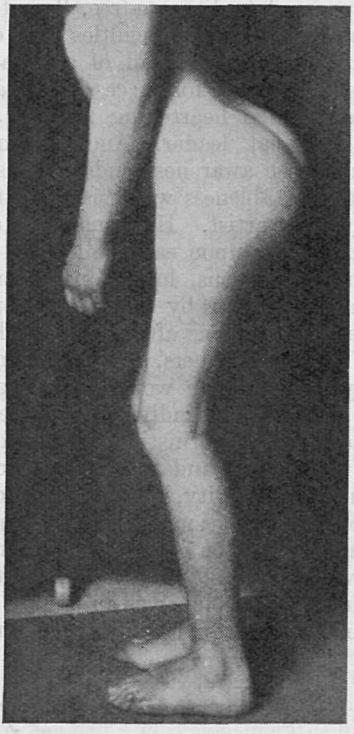


Fig. 1

also that the knees are flexed owing to contracture of the ham-strings. Her method of compensation by throwing backwards the upper part of the trunk has failed, with the result that walking is only possible with the aid of crutches. This difficulty has now been overcome by the use of mechanical stretching. (Fig. 2.)

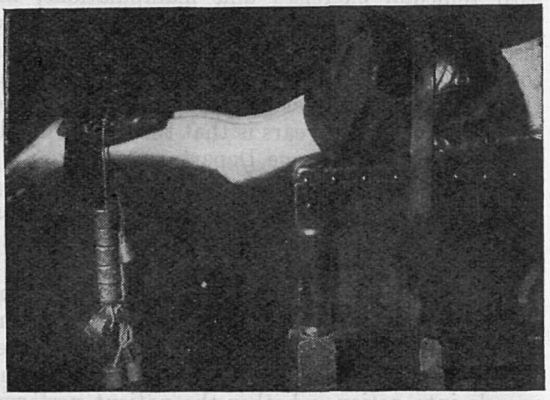


Fig. 2

The patient lies prone, for an hour at a time, the pelvis being strapped to the couch, the knees supported and weights (14 lbs.) being attached to the ankles. Once the capability of extending the hip and knee joints is restored active exercises are instituted. This patient can now walk without crutches and only rarely does she fall down.

Another type of exercise in which active movement is combined with weight extension is illustrated here. (Fig. 3.)

Fig. 3

A 2 lb. weight is attached to the leg, and the patient is encouraged to swing the limb backwards and forwards. The value of the weight attachment lies in the fact that by virtue of its inertia, the limb is coaxed to perform a larger excursion than would have been rendered possible by a purely voluntary movement. The exercise is of value for all cases of stiff joint, and is used extensively in the post-operative treatment of torn internal semilunar cartilages. It is of great importance to ensure that the weight swings slightly inwards as well as upwards, otherwise the internal lateral ligament may be strained.

Whilst dealing with the treatment of diseased joints, it may be of interest to you to observe the method of application of hot paraffin wax. Its chief value is that it can be applied at a high temperature without producing a burn. For this there are two reasons. The first is that as the wax is applied it solidifies rapidly and attracts a protective cushion of air underneath it. The second is that the sweat produced under the sheet of wax acts as a further guard. The paraffin melts at 45° C. and is applied at 60° to 65° C. in even layers, the greater the number of layers, the greater is the amount of heat imparted, and the longer does the effect last. In half-an-hour the internal layer may have lost not more than 1° C. Local pain and muscular spasm are reduced in a remarkable way by these applications. They are, therefore, of great value prior to the manipulations which have been described. Hot wax is also of considerable help to us before the forcible manipulation of joints under an anæsthetic. After manipulations, again wax should be applied and left on for two or three hours in order to lessen the reactionary pain. In the case of a patient who has early rheumatoid arthritis, the peripheral circulation being deficient, it is well to enclose the entire body in hot wax by means of a bath.

On removing the paraffin you will observe that it comes off like a glove, and if you were to examine the skin you would find it is flushed, moist, and warm. As a form of thermal treatment, it presents a great advance over those in common use.

VISCEROPTOSIS.

The next subject with which we will deal is visceroptosis, and the exercises to be demonstrated aim at restoring tone to the abdominal wall and pelvic floor.

In order to achieve a regular rhythm in the performance of these exercises, we find it best to accompany the muscular contractions by music.

(Various exercises were then carried out to the accompaniment of a fox-trot.)

(1) The patient lies on her back with the legs extended if the lumbar curve has been lost, and flexed if lordosis is present. She is then taught to pull in and relax the abdominal wall at regular intervals.

(2) Muscular contractions to lift the pelvic floor. This is combined with exercise (1). Care must be taken that the back is not arched during these exercises.

(3) From dorsal position with flexed knees, the trunk is raised until it forms a straight line from knees to the base of neck; the pelvis is then rotated from side to side.

(4) Sitting with knees drawn up (tailors' position), the trunk is rotated from side to side, the arms following the movement.

(5) Dorsal position, legs extended. The hips are alternately drawn upwards. This mobilises the lumbar spine and throws into action many abdominal muscles not affected by the preceding exercises.

(6) Standing, legs apart, knees straight, trunk flexed, arms extended towards floor. A series of sharp flexion movements are made so that the floor is rhythmically tapped by the hands.

(7) To obtain free spinal movement, the patient assumes an " all-fours " position. The spine is then vigorously flexed and extended (so-called " donkey " movement).

(8) The patient's fists are placed immediately below the axillæ, and the body flexed from side to side.

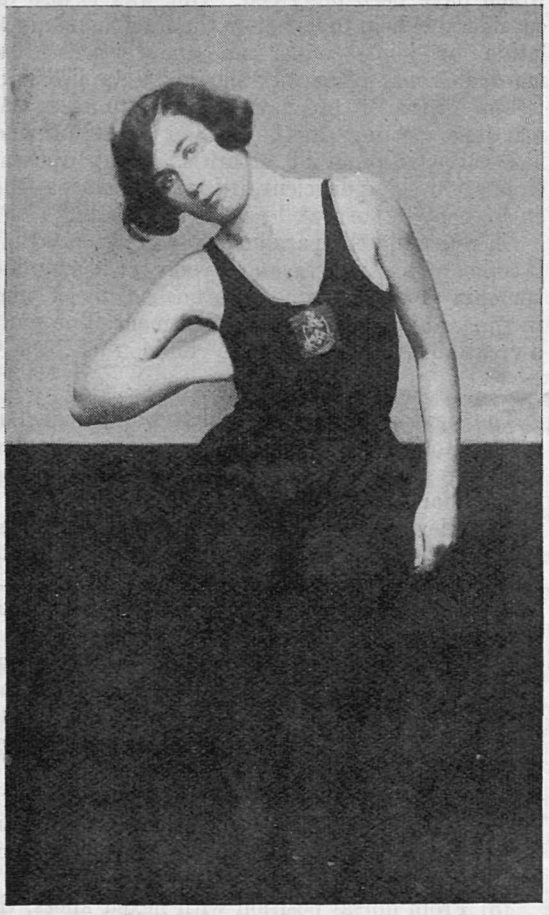


Fig. 4
Position of Hand and Side bending for shaking one side.

PULMONARY DISEASES.

The next group consists of exercises practised to promote breathing. While patients with empyema are very ill we simply teach them to take deeper breaths, and so restore the breathing habit. The second thing we teach them is to localise the breathing; that is to say, apical, midchest, and diaphragmatic breathing is first practised on both sides. Later it is limited to one or other of the above areas. The patient lies with the arm flexed above the head, and the legs drawn over to the normal side. The movement is preceded by some simple, double arm or leg exercise in order to increase respiration. Progression is achieved by altering the position into sitting, and fixing one arm across the abdomen, the hand gripping the iliac crest of the opposite side. The hand of the affected side is placed on the back of the neck. To accentuate the fixation of the healthy lung, a pad may be inserted between the arm and the chest.

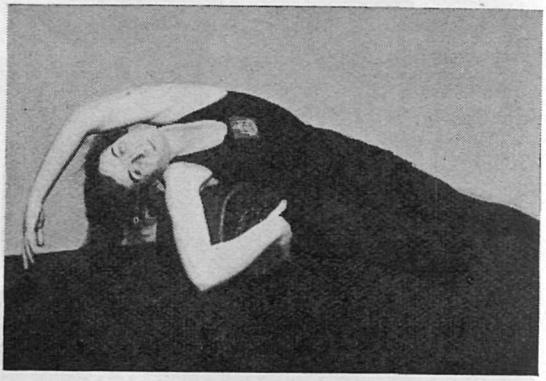


Fig. 5
Right Lung fixed to force expansion in Left Lung.

In order to obtain good functional results after operations for empyemata, two points must be borne in mind. The first is that breathing exercises must be instituted within the first day or two of the operation. Secondly, the drainage tube must be retained, though progressively reduced in size, until the sinus is barely patent. Time and again we have observed relapses in patients from whom the tube has been removed at too early a date; loculation of pus occurs only too readily.

Although, in the above, special reference has been made to empyema, it should be realised that the same exerices are used for any condition in which increased expansion of the lung is desired, *e.g.*, pulmonary collapse, delayed resolution of pneumonia, etc.

In such conditions as asthma, emphysema, and bronchiectasis, our main object is to promote an efficient expiratory movement, in order to reduce alveolar over-distension or to remove accumulated pus. With this end in view, the so-called shaking movements are used. The patient, at the commencement of each group of respirations, expires to his full extent whilst the hands of the masseuse assist the expulsive effort by exerting a rapid in-and-out shaking movement on different areas of the chest. Inspiration is then performed normally, and the process repeated. Each exercise com-

mences and finishes with expiration. Later the patient is taught to apply his own manual efforts to the apical, mid-chest and basal areas, anteriorly and posteriorly.

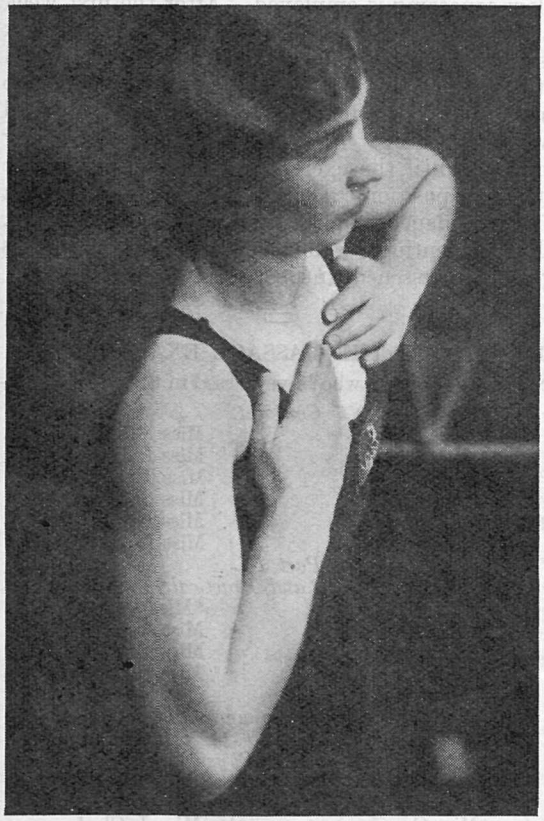


Fig. 6
Position of Hand on Chest for shaking Apices.

In order to appreciate the value of these exercises in asthma, you must bear in mind the fact that with repeated attacks, the chest assumes a

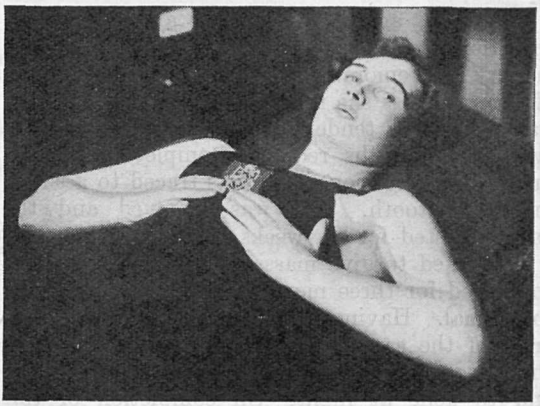


Fig. 7
Position of Hands for Lower Chest Breathing.

permanent position of inspiration. The respiratory muscles become shortened and adopt a new postural length and tone. The resulting rigidity of the thorax is a great factor in perpetuating the over-distension of the alveoli which is initiated by an asthmatic attack, and which eventually leads to true emphysema. By producing forced expiration, we overcome this distension, and, therefore, postpone the development of pulmonary textural atrophy.

In like manner, in cases of emphysema, although the developed disease cannot, of course, be cured, yet the widespread alveolar distension which precedes the rupture of the septa can be largely overcome and the progress of the disease inhibited.

In both cases, exercises directed towards mobilization of the chest wall are used before the shaking movements are practised.

In bronchiectasis, the above procedures are carried out with the patient's trunk tilted towards the floor. The effect of gravity thus aids the expiratory exercises in driving out the accumulated fœtid material.

Massage to restore the Normal Function of the Limb after Inflammatory Conditions in the Veins

By Miss H. S. Angove

IT is very little recognised that much can be done to finally restore the normal function of a limb in the following conditions: (i) Chronic varicose veins in which œdema persists; (ii) Chronic varicose ulcers in which sepsis is not present; (iii) Repeated chronic thrombi due to a septic focus which has been removed; (iv) Chronic lymphatic obstruction due to chronic septic and other conditions.

I have found patients completely recover after a carefully graduated course of treatment when for months or even years they have been incapacitated with constant recurrence of the swelling and pain. It is not possible to give a complete list of the cases which have been restored to normal in the Massage Department suffering from the conditions mentioned, but I will take two typical cases which I have been able to follow for years after.

CASE I.

A female, age 45.—She had an exploratory operation for adhesions complicated by a pulmonary and femoral thrombosis, and after months of severe illness she returned to light work. She was left with a tender, swollen, aching leg which every few months required complete rest. On further investigation sepsis was traced to a single remaining tooth. This was removed and the patient rested for six weeks during which period I was asked to give massage. The massage was continued for three months and the leg returned to normal. Having been able to watch the progress of the case, I again repeated the massage three months later as the leg began to feel heavy and to ache at night. On completion of this second course of treatment, the limb felt quite normal and there has been no recurrence of the symptoms.

CASE II.

A nurse, weight 11 stone.—After one year's training developed a varicose ulcer which healed when rested and broke down again on the nurse returning to duty, resulting in her second year's training being spread over two more years. I was asked at the end of this time to see if massage would help to keep her on duty. During this last year's training she came to me and for three months I gave her heavy massage three times a week, having previously drained the leg. This completely relieved all the venous congestion, the ulcer healed and the limb became normal. This treatment I repeated after a three months' interval, and the nurse completed the last part of her training in one year. After she had left Guy's for 14 years I again saw her and she has never had any more trouble with the leg.

The treatment consists of :—Elevation of the leg to an angle of 45 degrees for 15 to 30 minutes wrapped up in a warm blanket before the massage. This is followed by general kneading to the limb, avoiding the thrombosed area, followed by slow, heavy effleurage. This work is given with a soft hand, at first very gently and rhythmically, gradually increasing the depth of the movement until heavy slow squeezing is employed. After the first week a carefully graduated scheme of free active work is introduced, beginning with toes, bending and stretching, followed by ankle, knee, and hip movements. At first all the work is performed with the limb elevated, and then gradually lowered until the exercises are performed in the standing position. During the first few weeks a crepe bandage is applied from the toes to the groin, thus preventing swelling and tension, and this is gradually lessened until it can be discarded.

RESULTS OF THE MASSAGE EXAMINATIONS.

Names of students who have passed in the following :—

Conjoint.

Miss Barton.	Miss Millard.
Miss Bridge.	Miss Pigott.
Miss Evans.	Miss Thornton.
Miss Fitch.	Miss Sampson.
Miss Fraser.	Miss Hollis.
Miss Ingall.	Miss Laird.

Part II.
(*Theory and Practical.*)

*Miss Gotts.	*Miss Beattie.
*Miss Harrison.	Miss Osler.
*Miss Park.	Miss Boulton.
*Miss Parrett.	Miss Godber.
*Miss Stead.	Miss V. Clark.

*Examination completed.

Part I.
(*Anatomy and Physiology.*)

Miss Blundy.	Miss Wood.
Miss Grugeon.	Miss Wrennell.
Miss Gummer.	Miss J. Clark.
Miss McPherson.	Miss Morris.
Miss Newsom-Smith.	

Teacher's Diploma.

Miss Blomfield.	Miss Randell.

Principals of Teaching.

Miss Secretan.

The Minimisation of Some Errors in Gold Inlays

A Paper read before the Dental Society by A. R. Thompson

MR. PRESIDENT AND GENTLEMEN,—Gold inlays, which may be defined as fillings constructed outside the mouth and then cemented into the cavity first came into general use in 1908. The sole credit for this most important advance in conservative work is due to a Mr. Taggart who invented and perfected the pressure casting process. The Taggart technique was very thoroughly worked out and has been used in its original form to the present time.

Such fillings owing to their composite nature possess all the advantages of both plug gold and cement fillings, all the disadvantages cancelling out except the lack of permanence of the exposed cement edge. It was the apparent weakness of the cement lute which made the gold inlay appear to be a doubtful proposition. However, it has been found in practice, that provided the lute is of the order of 1/1000 in., the filling will last almost indefinitely. It is only when the width of the chink exceeds this figure that serious solution of the cement occurs and cuts short the life of the restoration. Hence it should be our aim to reduce the width of the chink by all the means in our

THE
MASSAGE
DEPARTMENT
1929

power. Mr. Parfitt endorses this by saying "To make an inlay which cannot be distinguished from a cohesive gold filling is a difficult matter, but anything short of this cannot be called satisfactory."

In any attempt to realise this ideal it would be logical, first, to investigate those factors which influence the width of the chink and its subsequent permanence. They are as follows :—

(1) *Discrepancies between the inlay and its cavity.*—These may be of two kinds, uniform shrinkage and local irregularities. Both are capable of producing very serious gaps and it is with them that the paper is chiefly concerned.

(2) *The size of the cement grains.*—These are usually about 1/1000 in. in diameter, and hence if they are any larger than this our best efforts in other directions will be futile. This would indicate that only the finest cements should be used.

(3) *Pressure on the inlay while setting.*—It has been shown that in the case of two typical cements an increase in pressure of 100 lbs. per square inch resulted in a reduction of the width of the chink from 1½/1000 in. to 1/1000 in., and from 1/1000 in. to ½/1000 in. respectively. In practice such pressures can be realised if the inlay rests on a narrow bevel.

The permanence of the lute depends directly upon its width. In a narrow chink at places away from the bite, chemical erosion starts rapidly, and then gradually slows up, until the cement comes to lie at the bottom of a groove ; which is as deep as it is wide. This has been definitely proved to be due to a protective layer of mucin. In wider chinks, especially at the occlusal surface an additional factor, viz., the mechanical action of the bite, is added. Hence greater pains must be exercised in the finishing of this part of the filling. Luckily, the access is easy in this situation.

Let us now come to a more detailed consideration of the discrepancies between the inaly and its cavity.

It is my purpose to try and show that under the most favourable conditions, both the direct and indirect methods must produce castings which are smaller than the cavity ; and that this discrepancy is not a fanciful theoretical idea, but is sufficient to produce a visible chink ; which I believe is universally admitted to be the last thing desired. It must be admitted that in many cases this discrepancy may be partially made good by various methods, such as using 24 carat gold, and swaging the inlay on a model ; but I will also indicate the limitations of these methods.

In order to show that the casting must be smaller than the cavity, the various steps of the process must be analysed with regard to the contraction or expansion they entail. The figures about to be quoted are extracts from extensive researches made by the U.S.A. Bureau of Standards and are no doubt trustworthy. In order of process the steps are :—

(1) A stick of wax is warmed to approximately 50°C. in order to soften it ; and then introduced into the cavity and held there, under firm finger pressure, until it sets. The wax has now cooled to the temperature of the tooth, which is about 30°C. In cooling there is a tendency for the wax to contract, which is restrained by the tooth and compensated by the introduction of more wax by continued finger pressure. There is thus set up in the wax a state of elastic strain. So long as the wax is not rewarmed above a certain temperature this strain will not be released—the suitability of an inlay wax is largely dependent upon this temperature.

(2) The wax pattern is now removed from the tooth, and at the instant of removal can be guaranteed to be an exact replica of the cavity. It rapidly cools, however, to room temperature, which, for the sake of argument, may be taken to be 16°C. Now the coefficient of expansion of the average inlay wax is .0006 of a unit per °C. (*i.e.*, 0.6 per cent. per °C. at the temperature range we are now considering. This results in a contraction of .84 per cent. in cooling the 16°C. from mouth to room temperature. Those technicians who cool their patterns with ice-water at this stage obtain double this contraction.

(3) The wax pattern is now invested. In this process there is an expansion of .25 per cent. accompanied by a rise in temperature of 5°C. It is stated, however, that this has no effect on the size of the finished inlay. The reason for this is said to be that the temperature of setting produces a compensatory expansion of the pattern. Would it not be more reasonable that contraction of the mould space is resisted by the incompressibility of the wax ?

(4) The mould is now dried out, and then heated to dissipate the wax. At 300°C. the investment expands .2 per cent. ; above this temperature there is a contraction ; and higher still expansion again occurs, until, at 600 to 800°C., there is an overall expansion of .5 per cent. If the mould is now allowed to cool, it becomes very weak, and contracts considerably.

(5) Molten gold is now forced into the mould space. The gold then cools, and in contracting from the molten to the solid state contracts 3.8 per cent., but this contraction is made good by continued pressure on the head of the still molten gold in the crucible. The further cooling to room

temperature results in an uncontrollable contraction of 1.25 per cent.

It can be seen that some of the changes are on the good side of the account, while others are on the bad. Unfortunately, the bad outweigh the good, even under the most favourable conditions. When the ultimate change from the above figures is calculated it will be seen that the smallest possible contraction in the finished inlay is 1.6 per cent., while it can easily mount to 2.6 per cent.

In a typical Class II inlay this would be represented by a gap at the cervical margin of 6/1000 in. and 1/100 in. respectively. Now, 1/1000 in. is usually considered to be the maximum error allowable. Van Horn, one of the first workers to realise the seriousness of this shortcoming, conducted a striking demonstration on the following lines.

He had a tapered steel bar constructed, the taper on which was 1 per cent. He then invited numerous technicians to make a wax ring closely fitting the base of the bar, and to cast the ring in gold to the best of their ability. The results showed that none of the rings would slide along the bar to anywhere near the base.

From a purely physical point of view these discrepancies between cavity and inlay must occur, but in practice, methods can be employed which will minimise them. I shall now review these methods, which are :—

(1) *Favourable cavity preparation*—In approximo-occlusal preparations by cutting the cavity so that the walls have a large taper, it can be arranged that the inlay sinks deeper into the cavity, and obliterates the gap at the cervical edge ; provided clearance can be made on the occlusal seat of the inlay. This method has the great disadvantage that large bevels for prophylaxis cannot be used ; and also the minor disadvantage, that some small weakening of the tooth is incurred. Another method is to employ large bevels and obtain clearance under the inlay so that it rests on the bevel. This appears to be a sound procedure, but it only applies to simple occlusal cavities, over which there is usually no difficulty.

(2) *Use of* 24 *carat gold*—This gold can be drawn by means of mounted stones to cover considerable discrepancies, and when the indirect method is used small irregularities can be corrected by swaging in the amalgam die. This is a good method, but it is doubtful whether the gold has sufficient strength to resist the force of the bite in all cases. It must be remembered that cast pure gold has much less strength than hammered cohesive gold. But, on the other hand, correct contouring and polishing are said to minimise the destructive force of the bite.

(3) *The expanded wax technique*—In this method the wax pattern is invested warm. This produces an expansion of the pattern which can be made to compensate exactly for the subsequent contraction of the gold during casting. The advantages of this method are that an inlay can be produced which will fit the cavity exactly in all cases, without having to cramp one's operative style, *e.g.*, large bevels can be used ; and that the chair side finishing is reduced to a minimum ; the sole disadvantage is the necessity for the use of a machine, which is certainly no more complicated than a vulcaniser, and the time and trouble required to work it. This disadvantage should have no weight, especially as the whole complication is thrust upon the mechanic. We now come to a more detailed consideration of the process.

From the figures quoted previously the temperature of investment of the pattern can be calculated, which will compensate for the contraction of the gold. In order to invest the pattern at that temperature, and to ensure the pattern reaches that temperature, and is maintained there, until the investment sets, two things are necessary (1) A thermostat controlled space in which to perform the investing process ; (2) An investment which sets sufficiently slowly.

At the end of this particular part of the technique an invested expanded pattern is obtained ; and this expansion is sufficient to compensate for the contraction of the gold, provided the casting is done in a hot mould. Thus far, the subject has been treated in a mathematical fashion, and it must be admitted that this is only permissible for the purpose of argument, because, unless the exact figures and curves of the materials we are using are in our possession, the process must necessarily be empirical as far as the choice of temperature of investment is concerned. Until we obtain the data of our materials we are up against this difficulty, but it is quite easy to obtain the correct temperature of investment experimentally by checking the results when temperatures a few degrees either side of the average, viz., 45°C., are tried.

In order to place the process on a scientific basis, the following data would be necessary :—

(1) The maximum temperature to which the wax can be heated before it releases its elastic strains.

(2) The expansion curve of the investment.

(3) The coefficient of expansion of the wax.

In order to justify to myself this addition to the technique, I have constructed the apparatus which you see before you, and have experimented with investment and setting solutions. The results of these experiments will be given at the con

clusion of this paper. Using this apparatus and investment, inlays were constructed which have convinced me that a considerably improved fit can be obtained. As a matter of interest, an inlay will be passed of an M.O.D. cavity cut in the accompanying tooth, and constructed under mouth conditions, *i.e.*, in a water bath at 30°C.

We now come to another phase of gold inlay work. Having dealt with the uniform contraction of the finished inlay those faults in inlays may be considered, which should be grouped into the class of local irregularities. They are :—

(1) *Warping.*—This can be said to be entirely due to the release of strains which have been introduced into the wax pattern during its manipulation into the tooth cavity. Mr. Weston Price has shown that when wax is manipulated an elastic strain is set up in its interior and that this elastic strain will not be released producing a distortion unless the wax is warmed. He produced some very pretty practical illustrations of this. The obvious significance of this is, that if the distortion is to be prevented, either the strain must never be produced, or it must be released without altering the pattern, or it must never be released. Mr. Price pointed out that the first is impossible because the wax must be heated to place it in the cavity ; it must then cool and in cooling tend to contract and be resisted by the tooth, and, therefore, produce a state of strain.

The third method would exclude the possibility of using the expanded wax technique. This leaves the second method which is the one advocated by Mr. Price. It is very simple to effect and consists in passing a hot instrument through those places where strain is likely to exist.

I incline to accept the above and its remedy as correct because it has the authority of such an able investigator. It would seem, however, that the wax locally melted by the hot instrument must become strained again on cooling. Van Horn, the inventor of the expanded wax technique, ignores this internal strain except in the fact that the wax from which he makes his pattern is roughly cast to shape so that during introduction of the wax into the tooth the minimum distortion is produced. The majority of modern technicians also use the expanded wax technique and ignore the internal strain, without producing distortion. Their explanation is that the temperature of investment is not sufficient to release any but gross strains in modern waxes. True as this may be, there appears to be little doubt that the things that will produce distortion are repeated small changes of temperature, and, more important still, the inclusion of gross distortions during the manipulation of the wax caused by working the wax at too low a temperature. An explanation of this last statement is afforded by the fact that the higher the temperature at which a wax is worked the higher the temperature to which it can be reheated without releasing its strains. The remedies are : Carry through the whole process rapidly, bend the wax while very soft into an approximate semblance of the cavity, and finally release the strain by surrounding the pattern in the tooth with wool soaked in hot water, or by the more doubtful method of cutting through the pattern with a hot instrument.

(2) *Bubbles.*—There appears to be little unanimity of opinion as to the cause of the beads of gold commonly seen on the surface of inlays. This irregularity is more serious than it appears at first sight because minute beads are quite sufficient to prevent the inlay going into place, and besides the difficulty of detection they often occur in inaccessible places. As a check for this many operators make a routine examination of the cavity surface with a lens. The usual explanation of this trouble is that air bubbles are trapped on the surface of the inlay during the preliminary coating with investment. This would appear to be unlikely, provided ordinary care is exercised. A more probable explanation is, that the investment is not sufficiently strong, or is not porous enough to restrain, or allow the escape of gases included as minute bubbles in the materials during the heating-up process. In support of this it is fairly certain that investments which contain graphite come to contain gas bubbles during heating owing to the graphite passing through a so-called " gas stage." Apart from the exclusion of graphite and such substances as oil the obvious remedy is to invest in a vacuum. This has been tried with success as far as the bubbles are concerned, but the practical difficulties are rather great. The simplest and the best method on other accounts is to use as strong an investment as possible in order to restrain the destructive expansion of included gases. Slow drying out and heating up are also of great assistance in preserving the desirable strength of investment.

(3) *Roughness.*—This has been shown to be due to the collection of water on the surface of the pattern during investment. It can be eliminated by dusting the coated pattern with dry investment. If, after doing this, water is sprinkled on the coated pattern, the roughness will recur on coating. This proves condensed water to be the cause of roughness.

(4) *Lack of sharpness.*—This is a very common cause of failure, especially among the more careless workers. It is due to an incomplete filling of the mould, aided by contraction of the gold in passing

from the liquid to the solid state, which may be 3.8 per cent. The various causes of this, with their remedies, are :—

(*a*) Failure to apply, and to continue to apply, sufficient pressure during casting. This is the commonest failure and is caused by inefficient casting machines, especially the steam variety, and by uneven casting rings.

(*b*) Solidification in the mould space, after solidification of the gold in the crucible. This is commonly due to failure to heat the gold sufficiently and to the use of insufficient head of metal. It is also due to the touching of the molten metal by the wet casting pad.

In inlay work overheating of the mould does not cause this type of failure, because the temperature of the mould, even then, would not be up to the temperature of the molten gold. Long thin sprues and failure to arrange that the mould space should everywhere be surrounded by a good thickness of investment, are prolific causes of this type of failure. In reviewing these local irregularities it will be seen that practically all occur during the actual casting process, and that of these, all are easily prevented, except those caused by weakness of the investment. It is highly important that the investment should be as strong as possible, because a strong mould will resist the contraction of the gold, to an appreciable extent, and will permit the use of high casting pressures, which are desirable, because they produce denser and sharper inlays. In an effort to produce as strong a mould as possible, boiling out instead of burning out the wax has been tried, and is said to give good results. While considering investments, mention must be made to Weston Price's stone model method. This method is easy of effect, and is said to restrain 50 per cent. of the contraction of the gold. It has great similarity to the direct-indirect technique. Thus far I have not differentiated between the direct and indirect methods, this is because the factors above discussed are equally applicable to both. The pros and cons are minor details, but an intelligent understanding of the limitations of each will enable the operator to make the best choice of method. It can be shown on the lines of the above analysis of the changes in size of the inlay during the various processes, that the indirect method can be controlled so that the finished inlay is the same size as the cavity. There can be little doubt, however, that the indirectly produced inlay cannot be quite so sharp in detail as the direct inlay, owing to the greater number of transfers. This can be easily remedied by a little more polishing. The great difficulty in the indirect technique is the elimination of the distortion in the impression of the tooth. This distortion is chiefly caused by a part of the impression, or surrounding impression material, being trapped in the undercut beyond the bulge of the crown. Logically, the cavity preparation in direct and indirect methods should differ, in that all overhang should be removed, in the indirect method with lightening discs—in other words use the slice preparation. Strictly the impression ring should be cut away so that it nowhere overlaps the undercut part of the tooth and before removing the impression from the tooth, any composition which has squeezed out over the undercut part should be removed with a chisel. The only impression rings which can be made to fulfil these conditions are rectangular in section.

The comparison of the two methods with regard to ease of contouring and finishing the pattern is too well known to need treatment. The indirect method also has the useful advantage that osteo padding can be more easily, and more accurately used to economise gold and also that minor corrections can be performed, such as swaging and grinding. I purposely neglect to state which method may be the best, as it is felt that the slice preparation is the only really suitable cavity preparation for the indirect method ; and one is not convinced that the slice preparation is as good as the usual form. Personally, lack of skill leads me to favour the indirect method.

In order to round off the foregoing discussion, a summary of those steps will now be given, which have a logical justification :—

(1) *Cavity preparation.*—Use the ordinary preparation in the direct method, and the slice preparation in the indirect method. In both methods bevel the margins. The walls should have the minimum taper consistent with removing the wax. Provision must be made for an adequate lining of cement.

(2) *Manipulation of the wax.*—The wax should be roughly shaped like the cavity and then introduced while soft. There is an optimum temperature for the softening which is between 45° and 50°C. Above this point the wax is too soft to obtain good adaption and below this temperature it is unworkable, and greater strains are included within it. Any included strains may now be released, or at least evenly distributed, by placing a hot-water swab around the wax, or by the more doubtful method of passing a hot plastic through the pattern. The subsequent finishing is facilitated by keeping the instruments in hot water at 60°C.

(3) *Investment of the pattern.*—The sprue wire should be short and thick and the process should follow immediately upon removal of the pattern from the tooth. Where possible the expanded

wax technique should be used, and for M.O.D. patterns it is essential. The investment must be mixed as thick as possible consistent with its setting sufficiently slowly. A cone crucible former should always be used as it permits the use of high casting pressures and is a great aid to standardisation.

(4) *Heating up and burning out the wax.*—There are a great many fads over this process. The certain things are, that the process should be standardised, and should be gradual and progressively continuous until a temperature between 200° and 300°C. is reached. Unless the investment expansion curve endorses it, heating beyond this temperature is undesirable, and on no account should the mould be allowed to cool before casting.

(5) *Casting.*—The metal which should be double the mass of the finished inlay must be heated to as high a temperature as possible with the gas blowpipe.

The pressure, which should preferably be air or vacuum, must be as high as possible consistent with preserving a whole mould and should be continued until such time as it is certain that the excess metal has solidified.

Before concluding one will give a short description of experiments which have been made in order to procure a suitable investment for the expanded wax technique.

The choice of composition of investment depends upon the temperature expansion curve. The investment chosen is very suitable as it gives a wide temperature range in which there is little change of volume. The proportions of this investment are :—

74 per cent. silica (ground quartz).
26 per cent. plaster of paris.

Using this investment trial mixes were perperformed to obtain the minimum quantity of water which would produce a mix which could be painted on a pattern. The results of this are :—

Water investment ratio.	State of mix.
.40	Mix impossible.
.45	Mix did not bind.
.50	Mix not paintable.
.55	Mix paintable.
.60	Mix sloppy.

Spatulation time 1 min. in each case.

Experiments were then performed to obtain a modification of the setting time, so that an investment-water ratio of .55 would set in 15 minutes at 45°C. In order to do this a retarder was found to be necessary as such a mix would set in about 7 minutes at room temperature and increasing the temperature would hasten the set.

The determination of the time of setting was obtained by a Vicat Needle. The actual moment of setting cannot be obtained because the phenomenon does not start and end at a precise instant. The Vicat Needle provides a means of determining, with a reasonable degree of accuracy, the point at which a chosen state of consistency has been reached.

The instrument was placed in a water bath at 45°C., and the effect of various strengths of borax solution upon the setting time was observed. The results are :—

per cent. of borax.	Set.
1 per cent.	No set in 30 mins.
.75 per cent.	No set in 30 mins.
.6 per cent.	No set in 15 mins.
.5 per cent.	Set in 13 mins.

.55 water investment ratio used each time.

Spatulation time 1 min.

In practice the invested pattern and the investment ring were hermetically sealed in the apparatus before you and immersed in the water bath at 36°C. for 25 minutes.

In conclusion, may I take the opportunity of thanking Professor Gibson and Mr. Johnson for assistance in the determinations, and Mr. Walker and Mr. Kenshole for facilities to cast inlays.

Three New Books

Gastric and Duodenal Ulcer. By ARTHUR F. HURST, M.D., F.R.C.P., and MATTHEW J. STEWART, M.B. (Glasgow), F.R.C.P. Published by Humphrey Milford, Oxford University Press, 1929, pp. xvii, 544. *Price* 63*s*.

THIS book has been fortunate in its authors and its publishers. Both Hurst and Stewart have devoted a good many years to the study of gastric disease from its clinical and pathological aspects and it is good to have their results between the same covers. The harmony between the two authors is generally perfect though the physicians views are not always echoed by the pathologist, as for example, "I believe that hæmorrhage from gastric and duodenal ulcer is far less often fatal than is generally supposed," Hurst, p. 267, and "hæmorrhage remains one of the most serious complications of chronic ulcer, whether gastric or duodenal, and, after perforation, the most frequent cause of death," Stewart, p. 117.

The book has the supreme merit of being interesting. It is lucidly written and well printed. It is well documented and there are frequent references to Continental work which many of us neglect. Illustrations are numerous, but not superfluous. Briggs' X-ray prints and diagram-

matic interpretations are very good, and E. M. W.'s coloured plates are not only accurate but often extremely beautiful. There is a good index. With all this I suppose one must not grumble at a weight of 5 lb. avoirdupois and a price of three guineas, though it is a lot to pay for our ignorance of gastric disease.

The association of pernicious anæmia and chronic peptic ulcer, and the occurrence of gastro-jejunal ulcer when acid is absent from the test meal, are both described by Emery and Monroe, whose paper probably appeared too late for the correction of statements to the contrary in the text. There is a misprint in the middle of page 156. McLean's views on test meals are discussed all too briefly. Reference might have been made to Barclay's paper on the healing of chronic ulcer. These are small points and they do not diminish one's admiration of the comprehensiveness of the review of the subject and the mastery of its presentation. The book is good enough to stand criticism.

In the section on ætiology focal sepsis and "the hypersthenic gastric diathesis" are stressed. The evidence incriminating focal sepsis does not impress me. I cannot help feeling that focal sepsis is a side issue and that it is no more important in chronic ulcer than in pernicious anæmia or rheumatoid arthritis or chronic pulmonary tuberculosis or manic-depressive insanity. Naturally one should try and clear up oral sepsis in a patient with an ulcer just as one keeps a varicose ulcer of the leg clean. But ulcers recur in spite of all the efforts of the "stomatologist," and I for one am not convinced of any fundamental ætiological significance.

The diathetic approach is more promising, but it does not seem to get us very far. People with duodenal ulcer have short stomachs and with gastric ulcer long ones, and this may explain the site of ulceration. But the suggestion that duodenal ulcer developes in a short stomach with hyperacidity and gastric ulcer in a long stomach with hyperacidity is not supported by enough evidence. Hyperacidity which persists after a few weeks of medical treatment for duodenal ulcer is not necessarily a constitutional or hereditary factor. The duodenum is often still over-active in these cases, and it is more than doubtful that the ulcer has healed. One wants to see test meals after five or ten years' freedom from symptoms, with a normal duodenum, on X-ray examination. Hyperacidity is a very confusing word, and the attempt should be made to distinguish between the concentration of hydrochloric acid in the stomach and the quantity of acid secreted. Hyperchlorhydria occurs in reflex dyspepsia, and there should have been more discussion of the causes and effects of pylorospasm and of the varying secretion of hydrochloric acid and neutral chloride by the stomach, before representing the "hypersthenic gastric diathesis" as a constitutional abnormality. Constitutionalism may be a benumbing influence in medicine as in politics. I hope Dr. Hurst will push this work on hyperchlorhydria farther. For it is conceivable that it may lead to as novel discoveries as his previous work on achlorhydria in anæmia.

The bias against surgical treatment is very great. It does not seem justified on the evidence. Surgical treatment has a higher mortality than medical and its complications are more distressing. The average results, however, are a great deal better. It is interesting to compare Hurst's New Lodge figures (interval after treatment of ½ to 7 years) with Emery and Monroe's figures from a general hospital (interval of ½ to 13 years, average 4) and with Balfour's 100 physicians operated on for duodenal ulcer (average interval of 8½ years). Recurrence, subsequent operation or cancer is considered a failure. The results of medical treatment in a general hospital were little better than no treatment at all. Most of the patients kept their ulcers, but they also kept their lives, having a total mortality of only 1.3 per cent. Nearly 10 per cent. of the surgical cases died, 7 per cent. from operations and the remainder from recurrence later. The survivors, however, were twice as comfortable as those treated medically. I was disappointed in the New Lodge figures. Three per cent. of the patients treated medically there seem to have died of the disease and there were 42 per cent. cured, 33 per cent. improved and 25 per cent. failures. This is better than surgical treatment in a general hospital, but not nearly so good as Balfour's results. Of the 100 physicians, most of whom were treated by the much despised operation of gastro-enterostomy, 84 per cent. remained perfectly well after an interval of 8½ years. There were only 10 failures, and one death—this last from cancer. I do not know any comparable series of cases which have been treated medically and have remained so well after a like interval of time.

The treatment of gastric and duodenal ulcer is obviously unsatisfactory. X-ray examinations are making physicians a great deal too sanguine about their results. Niches and notches may come and go, but peptic ulcer is a disease lasting 10 to 40 years and we want more statistics of the late results of treatment. Medical treatment is fairly safe and it gives results in intelligent patients who are able to adapt their lives to it. It taxes their co-operation to the full, and men who have to be stevedores and bus drivers and railwaymen must

often take the surgical short cut with all its dangers if it gives a better chance of complete freedom from symptoms. Nevertheless, whether patients are treated surgically or medically they require prolonged after-care and one does not wish to grumble at the emphasis on medical treatment.

The complications of peptic ulcer are described in detail and some of the sections, such as those on jejunal ulcerations and fistulæ following ulcer, are monographs in themselves.

This is a stimulating book. Everyone interested in gastric disease will be glad to have a book by Hurst and Stewart, and having once dipped into it, he will want to have it on his shelves.

L. J. W.

Recent Advances in Surgery. By W. H. OGILVIE, M.A., M.B., M.Ch. Oxon., F.R.C.S. Eng. Second Edition. Published by Messrs. J. & A. Churchill. *Price* 15*s*.

SOME indication of the popular appeal of this book may be gained by appreciation of the short interval between the publication of the first two editions. We believe this success to be due very largely to two main factors. In the first place, the whole outlook of the book is essentially *modern*; the author looks upon surgery as having at last made its alliance with physiology and ceased to be merely a combination of anatomy and carpentry. Secondly, the results of operations and treatment described are weighed up fairly, no exaggerated estimate of success or wild prophecy of failure being made. In this edition several small additions and revisions have been made, and two chapters on Radium have been added, though all the matter contained in these chapters is not new to the book, but has been collected together from other chapters. The first of these added chapters is written by J. E. Carter Braine, M.D., F.R.C.S., and is concerned with the general principles of X-rays, radium and diathermy. The history, production and cost of radium are discussed, the action of radiation therapy and the apparatus used are described; there are some notes on the general principles of dosage in so far as general principles can be laid down at all, and after a brief summary of conditions, other than cancer, which may be benefited by radiation, the chapter ends with a short note on diathermy and its two main varieties.

The second of the added chapters is by the author of the book, and deals with the practical application of radiation treatment of cancer in all the sites in which it may be used, and a brief description of the surgery of access in each site. The value of radium treatment in cancer of the lip, tongue, breast, rectum and cervix uteri, are particularly stressed and some proof of their value is given by the figures of results quoted, though, owing to the difference of opinion and inexact definition of early, moderately advanced and inoperable cases, these figures are of doubtful value at present.

Both in his introductory remarks and in the exceedingly sane and cautious summary at the end of the chapter the author points out that surgery is still the treatment of choice, that a combination of surgery and radiation is frequently effective, and that radium treatment alone, while being as yet a poor third, has an assured future in treatment of cancer, more especially in advanced cases.

In conclusion, we should like to repeat the comment we made in our review of the first edition, and assure both post-graduates and senior students that this book will be of inestimable value to them, and furthermore will make very interesting reading.

O.P

Mothercraft. By L. G. HOUSDEN, M.B., B.S. Published by Messrs. Herbert Jenkins, Ltd. *Price* 2*s*. 6*d*.

MOTHERCRAFT is meant for the lay public and is a collection of the author's somewhat dogmatic views on the subject. The more the progress in the treatment of the diseases of children, the more unnatural does their rearing seem to have become, and this book is a valiant attempt to rectify that error. The majority of the mass of facts in it are inequivocal and particularly good are the chapters on "How to maintain the baby's health," "Signs of illness and how to recognise them," "Training," and the last chapter (written by the author's wife, sometime Sister in the Children's Ward) on "Clothing." That deep breathing exercises should be as natural as breakfast seems to indicate that these children do not get enough ordinary exercises during the day. What seems unbelievable when we look through our acquaintances for "spoilt" children is that it is right to take a child at two from his mother and give him in charge to a nurse. If this is true as the author states, the lower classes should produce the majority of spoilt children, which is against our experience. A word about the beneficial effort of the ideal ages to have children with their effect on their juniors and seniors would not be out of place in a future edition.

The section on feeding reiterates what many have been teaching for years, and it is put in a form easily assimilable by the ordinary mother. Many will wholeheartedly disagree with the

statement that the child must be thoroughly wakened up before feeding; more will disagree that the water intake in hot weather, such as is so common in London from August to October, should be limited to half a teaspoonful, but when the infectivity of cow's milk is discussed the author seems never to have heard of the recent order requiring all dairies to be inspected so that the primitive conditions he describes on page 53 are out of the question. These facts detract from the value of the book, but we wish to encourage any sincere effort to make breast feeding popular. The first chapter on the preparation for confinement.

If all the precepts in the book are carried out, there will be a greater number of healthier mothers and children and this will amply gratify the author. R.E.S.

Sport

Rugby

Guy's v. Gloucester

ON Saturday, November 30th, Guy's visited Gloucester and were defeated by two placed goals, a penalty goal and two tries (19 points) to a penalty goal (3 points).

After their disappointing form in previous matches it was not surprising to find several changes in the back division of the Hospital XV.

Fortunately, Windsor Lewis was able to resume after his long indisposition. I. K. Thomas occupied the centre with J. E. Giesen on his right, and H. G. N. Cooper displaced A. J. D. Lewis on the left wing.

Owing to the heavy rain that preceded the match, the ground was very heavy and the conditions far from ideal.

The forwards of the home side were in excellent form and played a great game all through. It was largely due to the splendid work of their pack that Gloucester were able to gain a victory by such a wide margin of points. They controlled the scrums and played with such fire in the loose that the Hospital were forced to play a defensive game most of the time.

O'Shea, who was hooking for Guy's, saw very little of the ball, and it was seldom that Howell could get the ball away to Windsor Lewis.

In the last quarter of an hour Guy's improved considerably and the backs participated in several rounds of excellent passing. However, the Gloucester defence was too good for them and little progress could be made.

Both full-backs, Wailer for Guy's and Boughton for Gloucester, played a skilful game, and the latter kicked three splendid goals for his side. He opened the scoring with a penalty goal from nearly half-way. McCanlis and James on the right wing had a splendid understanding and were repeatedly dangerous. As a result of their combination the wing player obtained two tries and the centre one.

Gloucester's remaining try was cleverly obtained by Price, and Hogbin, with a fine effort, kicked a penalty goal for Guy's.

Team—L. Wailer; T. G. Robinson (Capt.), J. E. Giesen, I. K. Thomas, H. G. N. Cooper; Windsor H. Lewis, J. Howell; J. R. F. Popplewell, C. D. Malone, R. A. P. Hogbin, J. S. Batchelor, T. Morgan, G. F. Lashmore, L. I. S. Campbell, J. P. O'Shea.

Guy's v. Birkenhead Park

AT Birkenhead Park on Saturday, December 7th, Guy's, for the second year in succession, smirched the home side's ground record and gained a well-merited victory by a placed goal and two tries (11 points) to a goal (from a mark) and a try (6 points).

The weather was of the worst possible description, heavy rain accompanied by a gale, fell throughout the match. In spite of the adverse conditions, Guy's played capital football and handled the greasy ball with surprising accuracy.

It was undoubtedly the best display that Guy's have given this season. Their team work and combination was well nigh perfect and stood out in striking contrast to the patchy performances seen in recent games. If this form can be maintained, there is no reason why the Hospital should not have many victories to their credit before the end of the season.

With the exception of A. G. Johnson, who took the place of H. G. N. Cooper on the left wing, Guy's persevered with the same back division which did duty at Gloucester, and the experiment was a distinct success.

The Hospital forwards played a great game and were masters of the scrums and very effective in the loose.

Playing with a strong wind behind them, Guy's in the first half scored two tries. Popplewell led a fine rush by the forwards and eventually touched down for a try which was not converted.

Keeping up the pressure, Guy's kept the home side on the defensive, but although they came near to success on several occasions, no further scoring took place, until Thomas swerved past Richardson and scored a try which Wailer was unable to convert.

Following the interval the home side improved and both Sherman and Lovegrove made good attempts to get through. However, our defence was equal to all emergencies, and in a short time Giesen very cleverly broke through the centre and gave Johnson a clear run in for a try which Wailer converted.

With the aid of the wind, Birkenhead Park pressed for a time, and Lovegrove, from a mark, dropped a goal and Springman obtained a try in the corner.

In the closing stages, Guy's set up a hot attack and came very near scoring on several occasions.

Team—L. Wailer; T. G. Robinson, J. E. Giesen, I. K. Thomas, A. G. Johnson; W. H. Lewis, J. Howell; J. R. F. Popplewell, C. D. Malone, G. W. Hall-Smith, T. Morgan, G. F. Lashmore, J. S. Batchelor, D. S. Clogg, K. P. Smith.

Hockey

Guy's v. Queen's Works, Bedford.

THE First Eleven visited Bedford for the first time on Saturday, December 7th. Our opponents were a strong side on paper, including five county men, and captained by an old county player. Guy's were without F. E. Camps and G. N. Carrell.

Playing conditions were ideal; in spite of the heavy rain of the last fortnight the ground was firm and true.

Bedford opened the scoring early in the first half, and soon after Clarke replied for Guy's with a brilliant oblique shot. Bedford were defending well, and but for their forwards fumbling their passes would have scored more often. Their second goal came from following up a first attempt which was not cleared. Guy's retaliated in like manner through Lyne, to equalise 2—2.

In the second half Guy's played much better as a team, and several good passing movements were carried out by the forward line. Twice Lyne was unlucky not to score, both shots being just wide. Both outsides were making plenty of ground and centred with discretion. Clarke, playing his best game so far, soon added a third goal for Guy's. Guy's continued to press, but without avail, Lyne being again unlucky. Stimulated by our unavailing efforts, Bedford made great efforts to score, and were at last rewarded with a third goal, after Schofield had saved brilliantly several times. No further score resulted and the match ended in a draw, 3—3.

This result was quite creditable, and we feel that on the play Guy's were unfortunate not to win. H. O. Lyne was in great form at centre-forward, and J. B. Schofield found his true form in goal.

Team—J. B. Schofield; E. T. Conybeare, F. R. Hayward; T. F. Todd, R. A. Sykes and T. E. Mitchell; R. O. F. Tilleke, C. J. Hartley. H. O. Lyne (Capt.); R. V. Payne and C. A. Clarke,

Hospital Information, etc.

Change of Address

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G. H. Dodd, "Woodbury," Moores Road, Dorking, Surrey.

T. L. Vaisey, 79, Harley Street, W.1. 'Phone, Welbeck 7476.

Papers by Guy's Men

A. H. Douthwaite, M.D., M.R.C.P. Angina Pectoris, *Clin. Jour.*, 1929, lviii, 97.

F. A. Knott, M.B., M.R.C.P., and W. L. Watt, M.D. Some Effects of Deep X-rays upon the Cells of the Blood, *Brit. Med. Jour.*, 1929, i, 542.

Arthur F. Hurst, M.D., F.R.C.P. The Pathogenesis and Treatment of Asthma, *Brit. Med. Jour.*, 1929, ii, 839.

A. H. Douthwaite, M.D., F.R.C.P. The Treatment of Hyperpiesia, *Brit. Med. Jour.*, 1929, ii, 844.

Arthur F. Hurst, M.D., F.R.C.P. Schorstein Lecture on the Precursors of Carcinoma of the Stomach, *Lancet*, 1929, ii, 1023.

Notice

THE Committee of the Royal College of Physicians of London and the Royal College of Surgeons of England will shortly elect one or more Mackenzie Mackinnon Research Fellows.

The object of the Fellowships is to aid any scientific medical investigation and the annual value of each Fellowship will be not less than £300. The Fellowship will be held subject to annual re-election, but the tenure shall not extend beyond three years, save under exceptional circumstances.

Candidates must be nominated by a Medical School or the Faculty of Medicine of a University.

Anyone desirous of being nominated for one of these Fellowships should communicate immediately with the Dean, in the Medical School Office, and must be prepared to state the nature and scope of the research which he proposes to undertake.

T. B. JOHNSTON,
Dean.

Guy's Hospital, S.E.1.

EDS. { E. T. C. / J. B. B.

GUY'S HOSPITAL GAZETTE

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PASSIM

THOUGH the awkwardness of a mid-week Christmas has made us late with our GAZETTE, we are yet early enough to wish everyone a Bright, Happy, and Prosperous New Year. In the three days so whole-heartedly devoted to celebrations, the pent-up products of months of careful preparation are once again released in prodigal manner to the unparallelled delight of everyone concerned. Linen cupboards give up their long cherished secrets, tons of coloured tissue paper obscure thousands of lights, a dozen pianos timidly jangle in infinite disharmony, carolling and counter-carolling invade the Park, until on Christmas Day itself some thirty discordant voices roar their long round of joke and chorus.

For sheer exhuberance of costume this year's display on the part of the Niggers certainly excelled all others within our memory, and if a somewhat less acceptable feature was the presence of the necessary vocal inspiration within what might well have been teemed *bass*inette, then the results were none the less creditable despite their obvious source. There was, in fact, about the whole troupe a certain vigour that took each and every vocal hurdle in its own impetuous stride, and with the help of a good pianist, no mishap for all the length of the course.

We understand that during the day Messrs. Eckhoff, Gibberd and Shackle were good enough to undertake the residential responsibilities on the surgical, obstetrical, and medical sides respectively, a considerable sacrifice of personal leisure which alone made the Nigger show possible, and one deserving the sincere thanks of members of the troupe and their audience.

BART.'S, no longer hiding its light under a bushel, sports a roof-top beacon as a nightly lure to the financial moth. If money for the Voluntary Hospital must needs be raised by means of stunt and spectacle, and such a course would now seem to be inevitable, we feel that such a device is far less objectionable than much of the hysterical advertisement that is so often the resort of professional publicity. The secrets of popularity with the general public are strangely elusive, and we look forward to the overwhelming success of this novel mode of appeal. A nightly firework display from the roof of Hunt's House may possibly form a prominent feature of the plan of campaign when next we are obliged to "go to the country."

MENTION has already been made in a previous issue of the Annual Residents' Ball, but since everyone was then altogether engrossed with Christmas and events of the Old Year, we feel it is not out of season to recall to mind that it has been arranged to hold this important social event of the New Year on Tuesday, January 21st, at the May Fair Hotel, the scene of last year's most successful gathering. We would encourage those intending to come, to apply for tickets as soon as possible, thereby assisting the organisers to no inconsiderable extent. We know from previous experience that for Guy's men and their fair

partners there is no more enjoyable dance than this. A leaflet is included in this number giving full information regarding all arrangements.

Pen and ink drawings by F. C. Tomlyn have frequently formed a most attractive adornment to the pages of the Gazette, and, if this year the Colonnade is the poorer for the lack of his most effective concert posters, we note that the Christmas decorations in the College Dining Hall incorporate a striking example of his gifts in the art of heraldry. It is suggested that the panel carrying the Hospital crest with full mantling and supporters, should remain as a permanent decoration of the space above the War Memorial, and we have no doubt that this suggestion will receive the serious consideration of the Committees concerned at the earliest possible moment.

Our heartiest congratulations to Mr. C. R. E. Freezer, distinguished in Pathology at the recent M.B., B.S. Examination of London University, also to Messrs. Fisher and Hunter who, in the Second B.D.S. Examination, gained distinctions in Anatomy and Anatomy and Pharmacology respectively.

Mr. S. D. McLean has been appointed House Physician to Dr. Poulton for the period ending on February 16th, 1930.

Obituary

STANLEY COCK

By the death of Stanley Cock after a long illness there passes one who although he did not finish his dental studies, yet took a very real part in the life of Guy's before the War. Born with a natural artistic genius, he had also the temperament that is often associated with it, which, while it made him a witty, kindly and jovial companion, was less suited to the duller aspects of a scientific curriculum. Those of us who were his fellow students will remember him as a man of many endearing qualities. A readiness to put his undoubted artistic talent at the services of the Hospital, whether by way of caricatures, which were always as kindly as they were apt, or posters, or appeals, was equalled by the enthusiasm with which he entered into all aspects of student life. Many old Guy's men treasure the originals of the "Take-in" cards he so willingly drew. He was a man who found it difficult to say no to anything he was asked to do, and although this quality reacted in some ways to his own disadvantage, it yet earned him a place in the memory of his friends which they will keep for him forever. Born in 1874, he was the eldest surviving son of Dr. and Mrs. William Cock of Salcombe, Devon, and before coming to Guy's as a Dental Student he had served an apprenticeship with Mr. Gabriel, a dentist practising in Ludgate Hill. He entered Guy's in 1894, and was a dental dresser to Mr. Wynne Rouw and Mr. Hopson in 1897, but after that period his main interests were in art. When War broke out in 1914 Stanley Cock became a special constable, but soon found this too dull a post, and joined the R.A.S.C. and was an acting Captain with this Corps in France. He was accidently gassed in an instruction camp at Blackheath, and although this left him with a considerable disability he was with the Army of Occupation in Germany for two years. When he left the Army, he settled in Downpatrick, and having now definitely turned to art, became an illustrator for several of the leading London publishers, as well as doing poster work. He leaves a widow to whom and to his parents, we extend our deepest sympathy. Let us think of Stanley as he would wished to be thought of, as one who laughed his way through life, who had ever a cheery word or a helping hand for a friend, and whose gay and whimsical genius brightened many a dull hour. Those who knew him will remember; and many a silent toast will be drunk this Christmas to the memory of one who helped to brighten so many Christmases at the Hospital he loved.

Physiology in the XIXth Century

A Paper read before the Physical Society, at Guy's Hospital, November, 1929, by J. T. Irving, M.A., Ph.D.

MR. CHAIRMAN AND GENTLEMEN,—The advance of physiological knowledge in the XIXth Century is characterised by the gradual elimination of mysticism and empirical classification in the explanation of the phenomena of life and the use instead of the theories of the various physical sciences which were growing rapidly during this period.

This advancement of science was due partly to the waning of the influence of religious and metaphysical reasoning in physical matters, partly to the big movements towards civil liberty like the French Revolution which had the effect of also intensifying the feeling for moral and intellectual freedom, and later in part to the writings of such men as Darwin and Helmholtz.

These advances may be briefly outlined :—The principle of the conservation of energy was first demonstrated by Mayer, a physician of Heilbronn, and Joule in 1842 and applied to physics and chemistry by Helmholtz (himself also originally a surgeon) in 1847. The principle of the dissipation of energy was first stated by Carnot in 1824 and finally universally applied by Willard Gibbs. The effects of this generalisation were widespread and stimulated the production of the new science of physical chemistry by Ostwald, Le Chatellier and Van t'Hoff.

In 1859 Kirchhoff and Bunsen devised spectrum analysis. Faraday (1821–54) and Maxwell (1865), worked out the whole theory of electricity and electro-magnetism, upon which followed the modern advances in this subject. Thomas Young, who will be mentioned again later, in 1802 stated the wave theory of light and John Dalton in the same year brought forward the chemical law of multiple proportions, and in 1805, the atomic theory; Wollaston in 1808 suggested stereo-chemistry, which was worked out by Pasteur in 1856 and later by Van t'Hoff and Le Bel; photography was introduced by Nièpce in 1814 and Daguerre in 1830, and the design of the modern microscope was foreshadowed by the introduction of the achromatic lens by Lister in 1830 and completed by the invention by Abbé in 1886 of the illuminating apparatus which bears his name and also of the oil immersion objective. Wöhler in 1828, synthesised urea and opened the door for an entirely new branch of chemistry, while Kekulé in 1865 developed the benzene ring theory. Modern synthetic chemistry, and bio-chemistry in particular, owe much to the work of Emil Fischer.

In the realms of biology, an entirely new outlook was engendered by the writings of Charles Darwin (1859 and 1868). This stimulated wide speculation on evolutionary processes. Other important work on this subject which rounded off Darwin's hypothesis was done by Mendel, Galton, de Vries and Weismann. In addition the science of comparative anatomy and embryology received a powerful impetus as seen in the investigations of Huxley, Haeckel, His and Balfour.

Although the basis for advance in physiological knowledge had already been laid by 1800, the amount of accurate recorded observations was very scanty. Lavoisier, who was guillotined in 1794 during the French Revolution, had demonstrated that oxygen was changed to carbon dioxide (Black's fixed air) in the body, thus showing the analogy with combustion. He also put the last nail in the coffin of the phlogiston theory.

Van Leeuwenhoek in 1674 had given the first complete account of blood corpuscles. William Hewson, in 1769, described lymphatics, and in 1771, the coagulation of the blood. Von Haller, one of the greatest physiologists of the eighteenth century, in 1736 put forward the myogenic theory of the heart's action, which was later contradicted several times before being finally confirmed by Gaskell. An English translation of Haller's lectures and a copy of Hewson's paper are to be found in the Wills Library. Stephen Hales, Vicar of Teddington, in 1733, first measured the blood-pressure by tying a cannula, 9 feet in length, into the left femoral artery of a horse. He found that it was 8 feet 3 inches of blood, or about 165 mm. of mercury.

In 1752, Réaumur had isolated gastric juice and shown its solvent action on food, which Spallanzani confirmed in 1782.

The long voyages of exploration undertaken in the eighteenth century, brought into prominence the ravages of scurvy. In Lord Anson's expedition in 1740, 75 per cent. of his total complement were laid up with it, and the Channel Fleet had 2,400 cases after a ten weeks' cruise in 1779. Captain Cook in his voyages in the 1770's had remarked the curative action of fresh vegetables. Lind, a surgeon with the Royal Navy, having found that several of the old navigators, such as Hawkins in 1593, recommended the use of orange and lemon juice, managed to persuade the authorities to try its effect. The Admiralty was so impressed by the results that it ordered its

universal use in 1795, after which scurvy disappeared from the Navy as if by magic.

The first attempts at calorimetry were undertaken by Lavoisier and Laplace in 1780. Early work on urine included the isolation of uric acid by Scheele in 1776, and the discovery of its occurrence in gouty concretions and renal calculi by Wollaston in 1797. Animal electricity was observed in the torpedo by Walsh in 1773. Galvani first discovered the electrical response in stimulated muscle, while Volta in 1792 was the first to tetanise a muscle experimentally. These results led to the later outstanding work done on electricity in nerve and muscle.

Von Haller, in 1751, foreshadowed in a sense, Müller's law of specific energy, to which I will refer later, when he laid down the axiom of *specific immanent properties*, for example, that contractility is the exclusive property of muscle and sensibility that of nerve.

Finally, in the eighteenth century, some advance had been made in the investigation of reflexes. Robert Boyle had early noticed that a viper, three days after decapitation, still struggled after being pricked, and Stephen Hales showed that the movements of a decapitated frog were nullified on destroying the spinal cord, while Whytt, in 1750, demonstrated that a reflex act could still be obtained if all parts of the spinal cord, save a small fragment, had been ablated.

The first and most important advance in physiology and in general biology in the nineteenth century, was the postulation of the cell theory. Originally this was worked out almost entirely by botanists. Robert Hooke (1665), Malpighi (1675), and Grew (1682) had noticed the cellular cavity in cork and green plants. Robert Brown, after whom Brownian movement is named, discovered the cell nucleus in 1831. The Hamburg botanist, Schleiden, was the first to emphasise the significance of the nucleus. In his paper, published in *Müller's Archiv.* in 1838[1], he proved that plant tissues are made up of groups of cells, and he recognised the part the nucleus plays in cell division, though not entirely correctly. A copy of his paper published in English by the Sydenham Society in 1847, is in the Wills Library. A friendly after-dinner chat between him and Schwann, prosector in anatomy at Berlin, who had found nucleated cells in animal tissues, led the latter to look for cells in all the tissues he knew of. In 1839, he published his paper on the agreement of microscopical structure in plants and animals[2] and summarised his ideas in this sentence :—

> There is one universal principle of development for the elementary parts of organisms, however different, and that principle is the formation of the cells.

Schwann subsequently became professor of anatomy and physiology first at Louvain and then at Liège. He did further work on histology and digestion and also early work on bacteriology. Schwann's work was later applied to embryology by von Kolliker (1843) who showed the ovum to be a single cell and its segmentation normal cell division only.

One of his greatest histologists of the time was Jacob Henle (1809–1895), whose name is associated with the loop in the kidney and the sheath in the hair follicle. He was successively professor of anatomy at Zurich, Heidelberg and Göttingen. He first described and classified the various forms of epithelium, and also demonstrated the presence of smooth muscle in the walls of arterioles, thus paving the way for work on the vaso-motor mechanism. His other investigations included work on the kidney, the cornea, the larynx and the brain. In addition he published some papers on morphology, a textbook of pathology, several manuals on anatomy and an essay on fevers. He appears to have been a striking personality and to have been a good amateur musician, numbering Mendelssohn among his friends.

Other important histologists of the time were Remak, who discovered non-medullated nerve fibres in 1838, and in 1852 first correctly described cell division. Purkinje (1787–1869) who is known to us by the cells named after him in the cerebellum, was professor at Breslau and Prague, and did much work on the histology of the central nervous system. He was the first to point out the importance of finger prints in identification. Schultze (1825–74), who worked at Halle and Bonn, is of interest as being one of the first histologists to apply physio-chemical ideas to physiology. He held, as Leydig had also suggested, that the cell membrane was formed probably by surface tension condensation of certain cell constituents at an interface. This idea has received much confirmation in modern times from the work of Bayliss and others.

Finally, the discoveries of the activities of the cell were completed by the full description of karyokinesis by Flemming in 1882. His work on the structure and nature of protoplasm is classical and formed an important step in the subject.

We have just seen that Purkinje's main work was on the central nervous system. The most important histological work done in this field was that leading up to the *neuron theory*. The cell theory was always considered adequate enough for explaining the existence of the nerve cell, but the actual nerve fibres had been always considered as separate entities during the first half of the century. In 1850, Waller first showed that the peripheral parts of nerves after section underwent the

degeneration now named after him[3], thus showing that the nerve fibre was part of the cell and depended on it for its continued existence. Deiters, in 1865, found histologically that each nerve cell had an axis cylinder growing from it, and Golgi (1883) demonstrated by means of his silver nitrate stain the existence of cells in the cord having long and short axis-cylinders, and the arborization of dendrites. The occurrence of the neuron as an entity has been confirmed by the modern work of Ramon y Cajal, the only physiologist of note that Spain has produced.

The function of the cerebral hemispheres had long been the subject of controversy. The first theory of localisation was introduced by Gall and his pupil Spurzheim (1810–19). Gall was the father of the art of phrenology. He divided the brain into 27 separate organs, which presided over the various moral, sexual and intellectual traits of the individual. He was driven out of Vienna on account of this theory, but was apparently welcomed in Paris as he died there a rich man. In spite of his extravagant ideas, by realising that the cerebrum was the physical expression of consciousness, he advanced the subject farther than it had been before.

His theory was overthrown on both theoretical and experimental grounds by Flourens (1822–24). Flourens showed that the removal of part of the brains of pigeons was not accompanied by the corresponding loss of a particular trait in the character of the animal; while removal of the entire cerebrum resulted in the complete loss of volition, will power and spontaneous movement.

In 1861, Paul Broca, a French cranial surgeon, stated that the third left frontal convolution was the centre for articulate speech and that loss of speech in right-handed persons, if caused by central paralysis, was accompanied by a lesion in the left cerebral hemisphere. Hughlings Jackson (1864), also drew attention to the connection between localised spasms and lesions in certain of the cerebral convolutions, but the first real proof of cerebral localisation was arrived at by Fritsch and Hitzig[4]. These surgeons, while serving in the Franco-Prussian war, found that on touching the cortex in cases in which it had been exposed by wounds, movements of various limbs resulted. They extended their work to dogs and found that definite areas in the pre-central gyrus corresponded to definite parts of the body. Stimulation of these parts led to movement, while ablation led to paralysis of the corresponding area. Their work was very soon after extended by Ferrier and other writers to the stage in which we now know it.

As regards the function of the cerebrum as a whole, a word must be said about the work of Goltz on removal of the brain of the frog (1869–72), and of the dog (1874–96). In the case of the dog the operation was done in three stages, and a curious characterless beast was produced. It never recognised any of the people in the laboratory and never showed any signs of pleasure, though it bit those who annoyed it. It was very restless, but never seemed to know what it wanted. This was particularly noticed when it was hungry, but it was unable to feed itself. It lived for 18 months, but never during that time did it develop any memory. It seems to have been now established that the optic thalami were not completely removed in this experiment, but, none-the-less, Goltz's work showed the importance of the cerebrum in regulating association and memory.

The study of reflexes began with the discovery of the function of the spinal roots, the so-called Bell-Magendie law. Bell, who is known to us by Bell's palsy, was a Scottish surgeon, and was later Professor of surgery at Edinburgh. In 1811, he published a paper entitled *A new idea of the Anatomy of the Brain and Nervous System.* In this he said that :—

> On laying bare the roots of the spinal nerves, I found that I could cut across the posterior fasciculus of nerves which took its origin from the posterior portion of the spinal marrow without convulsing the muscles of the back, but that on touching the anterior fasciculus with the point of the knife, the muscles of the back were immediately convulsed.

Magendie, in 1822, was able to extend Bell's discovery, as in spite of what he wrote, Bell considered that all nerves were essentially sensory in function. Magendie, who was professor at the Collège de France, repeated Bell's experiment on a litter of puppies and confirmed it completely.[5] It is interesting to note that he also observed the phenomenon of anaphylaxis which Jenner had seen in connection with inoculations, as long before as 1798. Magendie wrote a text-book of physiology of which there are several copies in the library.

The Bell-Magendie law was further confirmed by Johannes Müller (1801–58), who was one of the greatest German physiologists of the time. He used frogs for his experiment and recorded his results as follows :—

> If in the same frog, the three posterior roots of the nerves going to the hind extremities be divided on the left side and the three anterior roots on the right side, the left extremity will be deprived of sensation, the right of motion.

He was professor at Bonn and Berlin and numbered among his pupils Virchow, the well-known pathologist, the histologists Schwann and

Heale, and the physiologists Du Bois-Reymond and Helmholtz. His great text-book, the *Handbuch der Physiologie des Menschen* (1834–40), is one of the monuments of the period. An English edition is in the Wills Library. In philosophy Müller was a vitalist, though most of his pupils were materialists.

The idea implied in the Bell-Magendie law, that impulses coming in by the posterior roots could initiate further impulses passing out by the anterior roots, was obviously a big step forward in the explanation of reflex action, and in 1833, Marshall Hall, a Nottingham practitioner, suggested the existence of reflex paths, dissociated from those subserving sensation and volition, which he considered were the link between posterior and anterior roots inside the cord. His work excited considerable attention at the time, and in 1843, he published his views in a monograph entitled *New Memoirs on the Nervous System*. A good account of his ideas is found in Müller's *Handbuch*.

Sherrington[6] says of his work :—

> In his own estimation, his chief advance lay in the doctrine of separateness in the central nervous system of the great sub-system for unconscious reflex action and another great sub-system for sensation and volition. The two were, according to him, absolutely separate . . .

As Sherrington points out, the rigid dissociation of these two parts of the nervous system is not justified on experimental evidence. Nevertheless, Hall's idea was the germ which has given rise to a great deal of fruitful research.

Müller is famous for another piece of work besides his confirmation of the Bell-Magendie law. This was a concept known as the law of *Specific Nervous Energies*, and stated that any sense organ, when stimulated, gave rise to its own peculiar sensation and no other. The use of the word *energy* is misleading, but the truth of the law has been abundantly proved since, and its application has been extended from the end-organ to the nerves issuing from it. Thus, it has been experimentally proved that stimulation of the optic nerve gives sensations of flashes of light. Stimulation of the cold and heat spots in the skin never gives any other sensation than that of cold and heat, and clinical experience has shown us that the same law applies to the various sensory tracts in the cord.

I have mentioned above that Volta was the first to tetanise an isolated muscle, but up to the time of Du Bois-Reymond, little more was done in the direction of what we may call electro-physiology. Marianini and Matteucci had each done a little work on the subject, the latter having demonstrated the "rheoscopic frog," *i.e.*, that the muscle of a muscle-nerve preparation will contract if the nerve is laid across another contracting muscle (1842).

Du Bois-Reymond (1818–1896) first put the subject on a really sound basis. He was a pupil of Johannes Müller and succeeded him as a professor at Berlin. He turned out many pupils and greatly stimulated physiological research. He is well-known as the inventor of a special induction coil. By means of this, he was able to show many of the properties of muscle and nerve, including electrotonus and the genesis of tetanus. He found that tetanized muscle had an acid and resting muscle a neutral reaction. He first demonstrated in 1843 the phenomenon of current of injury which is observed in muscle as a difference of potential between injured and normal parts. He showed that in order to stimulate nerve electrically, one must use a current of varying strength and that a constant current was without action. He considered electrical stimulation to be a phase of electrolysis.

In addition to his scientific research, he was the author of several essays on materialism and on the French materialistic philosophers, and he carried his ideas into physiology and science in general, denying the purposeful character of natural phenomena, teleological explanations and the existence of free will.

The next branch of physiology on which I want to touch is that concerned with sight. The first work of any importance on the eye was done by Thomas Young (1773–1829). Young was a brilliant worker in other fields besides medicine. As I have said above, he first suggested the undulatory theory of light ; he also gave a good deal of time to physics, being interested in refraction, energy, capillary attraction and elasticity (Young's modulus). In addition, he was an accomplished Egyptologist, and first deciphered the Rosetta Stone now in the British Museum. He still was able to be a successful physician and practised in London from 1799 to 1814.

His contributions to ophthalmology were researches on accommodation,[7] astigmatism and colour vision. There were two main theories of accommodation in vogue at the time Young lived. The first stated that in the human eye, as with birds', the cornea increased in curvature during accommodation. Young disproved this by placing his eye under water, replacing the corneal refraction by a convex lens and finding the amplitude of accommodation unaffected. The second theory was that the eye changed its shape during accommodation, by elongating for near vision. This is the arrangement in the mollusc Pecten. Young [illegible]ed this by placing two iron rings which

could be clamped together in front of and behind his own eyeball, which he was enabled to do by having very prominent eyes, and by rotating the eye under test strongly inwards. The phosphene caused by the posterior ring, which extended to the fovea, did not change in shape during accommodation. He thus attributed accommodation to changes in the shape of the lens, a view which was subsequently confirmed by Helmholtz, who showed that the ciliary muscle was the responsible agent.

Young's views on colour vision are familiar to us to-day in the classical Young-Helmholtz theory, which postulates the existence of three different types of stimulable agencies in the retina corresponding to red, green and blue.

The correction of optical defects owes a great deal to Donders (1818–1889), a Dutch physiologist, who studied the use of prismatic glasses in strabismus, hypermetropia, astigmatism and other conditions, and in 1864 published in England a text-book on *Refraction and Accommodation Anomalies.*

Young's great successor in the field of ophthalmology was Helmholtz (1821–94). Helmholtz began life as a surgeon in the Prussian Army, but deserting military life in 1849, became a professor of physiology and anatomy at Konigsberg. He had published an essay on the *Conservation of Energy* while still living in barracks in 1847, and it at once made his reputation. This embodied the first law of thermodynamics, and stated that all forms of energy—chemical and physical—were capable of being transformed from one to the other, but that they could not be dissipated. This was followed soon after by the enunciation of the second law by Clausius and Lord Kelvin, and these two concepts between them formed the basis of the science of thermodynamics.

It is thus evident that from the first Helmholtz thought in terms of physics and he studied the eye from this point of view. In 1851, he invented the ophthalmoscope[8], and in 1852, he devised the ophthalmometer by which he was enabled to investigate the mechanism of accommodation and confirm Young's view more exactly. Subsequently (1856–67), he published his great work *Physiological Optics,* and later he turned his attention to the ear, producing a monograph on the *Ossicles of the Ear* in 1869. In this he stated the theory which is current to-day.

After having held chairs of physiology at Konigsberg, Bonn and Heidelberg, he turned to what obviously was his main interest and became Professor of Physics at Berlin, where he remained till his death. His work there on thermodynamics is classical. He must definitely be classed as one of the great men of the last century.

It is an interesting criterion of the trend of scientific thought and method at this period, that although Müller had been a vitalist, his two pupils, Du Bois-Reymond and Helmholtz, were both materialists and thought physiology in mechanistic terms. One can see how the old ideas of the eighteenth century, which was essentially the time of theory and speculation, were giving way to the more precise concepts of later times, and also how, as investigators delved deeper into physiological processes, they found them increasingly capable of explanation in physical and chemical terms.

We will now consider the circulation. The only investigator of any note who worked on blood-pressure between the times of Hales and Ludwig, was Poiseuille (1799–1869), who is known to us by his work on the flow of fluids in capillary tubes and who applied his findings to the peripheral circulation. He also repeated Hales' work on blood-pressure, using a mercury manometer in place of the inconveniently long tube. With this he was able to show the oscillation of the pressure with each respiration.

The discovery of the inhibitory action of the vagus on the heart was made by Weber, Professor of Physiology at Leipzig, and his brother, in 1845. This important step was communicated by them at a congress of Italian scientists at Naples. The following account is taken from Wagner's *Handwörterbuch der Physiologie* :—

> My brother and I found that stimulation of the *nervi vagi,* or of the parts of the brain from which they arise, causes slowing in the *tempo* of the rhythmic beats of the heart or even causes the heart to stand still. This is the first experimental proof that the brain acts on the heart, that this action is due to the action of a nerve ; . . . . . that a nerve acting on a muscular organ does not cause movement of that muscle, but arrests—inhibits—that movement, is an altogether new and unexpected fact.

The best work on the circulation at this time was done by Carl Ludwig (1816–95). After having been professor of physiology at several smaller towns, he was finally appointed at Leipzig, where he did most of his best work.

He is chiefly known for the invention of the kymographic drum which is now found in all physiological laboratories, the stromuhr for investigating the speed of blood flow, and the blood pump ; for his theories of kidney secretion and lymph flow ; and for his many papers on the circulation. He also worked on the innervation of salivary glands and introduced the method of perfusing isolated surviving organs with saline solution or defibrinated blood. This has proved most useful for the investigation of both vasomotor action and intermediate metabolism. His

pupil Kronecher showed that heart muscle could not be tetanised, and later, in collaboration with Dittmar, Ludwig located the vaso-motor centre in the medulla (1871–73).[9] Wooldridge, working in his laboratory in 1883, began a series of important investigations on coagulation of the blood, while the work of other pupils included a proof of the non-fatigueability of nerve (Bowditch, 1890), and the arrangements of muscular fibres in the heart (Gompertz, 1884).

Ludwig is said to have had 200 pupils of all nationalities through his hands and he published much of his best work under their names. He left physiology in a much more advanced state than that in which he found it, and his contributions to our knowledge of the circulation are classical. His best-known English pupil was Burdon-Sanderson, the first Professor of Physiology at Oxford. Ludwig appears to have been an inspiring teacher and a man with much charm of manner.

The other great contemporary worker on the circulation was the Frenchman, Claude Bernard (1813–78). His chief work was on three branches of physiology—carbohydrate metabolism, the pancreas and the vaso-motor mechanism. I shall deal with the first two later.

Bernard was born the son of a wine grower in the Rhône Valley, and began life as a pharmacist's assistant. After a while, he turned to literature and wrote a musical comedy and a drama which were both moderately successful. He went to Paris to seek the advice of a dramatic critic who told him that medicine was a surer means of gaining a livelihood. He therefore began medical studies, during the course of which he came into contact with Magendie, who directed his genius into its proper channels, and later was to admit his pupil an abler man than himself.

Bernard worked for some time in a rather depressing atmosphere. He was looked at askance by the public as a mere vivisector of animals, but he owed much to the protection of a police commissioner whom he happened to know. In addition to this, his wife was annoyed at the fact that he had not gone into medical practice and made money. But, in time, honours came his way. A special chair at the Sorbonne was created for him and later he succeeded Magendie as Professor of Physiology at the Collège de France. He was admitted to the Académie Francaise in 1868 and Napoleon III made him a Senator in 1869.

His work on the vaso-motor system dates from 1851.[10] He first divided the sympathetic in the rabbit's neck and found a considerable rise in the temperature of the ear (4°–6°) and a marked increase in vascularity. In 1852, he found that on stimulation of the cut end of the sympathetic, the vessels constricted and the ear became colder. In 1858, he showed that the sympathetic was the constrictor nerve and the chorda tympani the dilator nerve for the vessels in the sub-maxillary gland. He thus laid the foundation for our knowledge of the central control of the calibre of the vessels, and paved the way to the work of Gaskell and Langley.

Gaskell (1847–1914), who was a product of the Cambridge School, did most important work on the heart. He clearly showed that the beat was myogenic in origin and that it was conducted by means of a peristaltic wave and not by nerve.

He also showed that the impulse was reversible and was the first to use the electro-cardiograph. He spent the latter years of his life trying to prove that the central canal of the spinal cord was a primitive gut, an idea not generally accepted by morphologists.

From a consideration of the vaso-motor system we turn to respiration and the respiratory function of the blood.

As I said above, Lavoisier showed that respiration and combustion were analogous. In 1837, Magnus extracted oxygen and carbon dioxide from arterial and venous blood by means of a mercurial pump and inferred that they were simply in solution. Lothar Meyer confirmed Magnus' work, but Liebig, in 1851, suspected that the blood gases might be in combination with some unknown substance. This substance, hæmoglobin, was isolated by Hoppe-Seyler in 1864.

Hoppe-Seyler (1825–95), was Professor of Physiological Chemistry at Strassburg most of his life and was one of the outstanding biochemists of the last century. He founded the *Zeitschrift fur phsiologische Chemie* in 1877, still one of the best periodicals on the subject. Besides isolating hæmoglobin, he described the spectrum of oxyhæmoglobin and also made hæmin, hæmatin, and hæmatoporphyrin, and discovered hæmochromogen and methæmoglobin. He showed that oxygen was loosely combined with hæmoglobin, but that the union with carbon monoxide was much firmer, a fact previously noted by Bernard. Stokes, a mathematical physicist, in 1864, found that a solution of oxyhæmoglobin could be reduced by an alkaline solution of ferrous tartrate (now called Stokes' fluid), and that on shaking with air it recovered its original absorption spectrum. Lothar Meyer, in 1857, showed that the nitrogen in blood was in simple solution. The explanation of the carriage of carbon dioxide has had to wait till modern times.

One of the first to work on gaseous exchange was Paul Bert (1839–86), who succeeded Cl. Bernard at the Sorbonne. He published a book entitled *La Pression Barometrique* (1878), which dealt with caisson disease and the gases in the blood. In

prosecution of his experiments, he persuaded three balloonists to make a high ascent armed with bags of oxygen, only one surviving the attempt. More modern work was done by Mosso, who built an experimental station on the Colle d'Oben in the Italian Alps. He did much work on mountain sickness and introduced the "acapnia" theory, *i.e.*, that this complaint was due to lack of carbon dioxide in the blood and alveolar air.

The history of digestion begins with Réaumur's isolation of the gastric juice in 1752. John Young, in an article written in 1803, found an acid in the stomach, in 1824, Prout, an English chemist, showed this acid to be hydrochloric and this was later confirmed by Tiedemann and Gmelin. In 1833, William Beaumont (1785–1853), a surgeon in the United States Army, made his famous experiments, and published the results in a book entitled *Experiments and Observations on the Gastric Juice and the Physiology of Digestion* (Edinburgh, 1838), of which there is a copy in the Wills Library. A very good prècis of his work is found in Müller's *Handbuch*.

The subject of his investigations was a Canadian half-breed, who, as the result of a gunshot wound, had developed a gastric fistula with apparently a fairly large opening. Through this it was possible to observe the stomach while empty, to see the effect of food on the secretion of gastric juice, to withdraw samples for analysis and also to withdraw bile.

Beaumont first studied this man while at an isolated post in the primeval forests of Michigan, and later he finished his research by bringing him 2,000 miles to New York.

As a result of his work, he found that the stomach took, on an average, two to four hours to empty, digestion being faster with meat than with vegetable diets. On one occasion when he had annoyed his subject, the stomach took 5¼ hours to empty, showing clearly the influence of the sympathetic.

Some of his protocols are interesting. Here are two :—

Expt. 42.—April 7th, 8 a.m. Breakfast of three hard-boiled eggs, pancakes and coffee. At half-past eight examined stomach, found a heterogenous mixture of the several articles slightly digested. At a quarter-past ten, no part of breakfast in stomach.

Expt. 18.—On December 17th, half-past eight a.m., two drams of fresh-fried sausage in a fine muslin bag suspended in stomach of (subject), who immediately afterwards breakfasted on the same kind of sausage and a small piece of boiled mutton, wheaten bread and a pint of coffee. At half-past eleven, stomach half empty, contents of bag about half diminished. At two o'clock p.m. stomach empty and clean ; contents of bag all gone except 15 grains, consisting of small pieces of cartilaginous and membranous fibres, and the spices of the sausage which last weighed six grains.

At the end of one experiment, during which the subject had complained of symptoms of indigestion, the stomach wall was seen to be coated with numerous small spots of coagulated lymph.

After several experiments on gastric juice *in vitro*, Beaumont considered that digestion was due to free acid plus some other substance. Schwann, in 1835, demonstrated that this substance was pepsin and Kühme showed in 1877, its ability to break down proteins into albumoses and peptones.

Up to the time of Claude Bernard, physiologists thought that digestion occurred solely in the stomach. Eberle, in 1834, suggested that the pancreas emulsified fats, and Valentin, in 1844, showed that it acted upon starch. Bernard, in a paper published in 1856,[11] cleared up the whole question of pancreatic secretion. He showed gastric digestion to be merely a preparatory process and that the pancreatic juice continued the breakdown of foodstuffs. He demonstrated the transformation of fats into fatty acids and glycerol, the hydrolysis of starch, and the degradation of proteins to simpler compounds under its action. Bernard thought that bile was necessary for the action of pancreatic juice, but this was shown not to be so by Corvisart. The enzyme, trypsin, was recognised and so named by Kühne in 1876.

The study of metabolism has been divided by von Noorden into three periods :—

1. The study of the formation of end products, as exemplified by the work of Liebig and Wöhler.

2. The quantitative period of Voit and Pettenkofer, when food values and nutrition were carefully studied and balances of caloric output and intake made.

3. The recent era of the study of intermediate products of metabolism, first qualitative but now becoming quantitative.

The final phase belongs more to the present century and I will not deal with it here.

The synthesis of urea by Wöhler, in 1828, undoubtedly put the first nail into the coffin of the old *vitalismus* of the eighteenth century. By making for the first time an organic compound from inorganic materials without the aid of a living cell, he showed that there was nothing mysterious in organic chemistry, and that the body used laboratory reactions in its transformations. This was followed by an attack by chemists on all the various constituents of the body, of foodstuffs and of excreta.

I have only space to mention a very few discoveries. Heller, of Vienna, between 1844 and 1860, devised many tests for urine. Petter, in

1857, first found acetone in diabetic urine ; Jaffé discovered urobilin in 1871, and indican in 1877. Marcet, who was at one time a Guy's physician, described alkaptonuria in 1822. A very good account of his life has been published by Garrod in the *Guy's Hospital Reports*.[12] The various quantitative methods of urine analysis were worked out towards the end of the century, Kjeldahl inventing his method in 1883.

The biuret test was introduced in 1833 and the Millon test in 1849. From 1820, when Braconnot discovered glycine, to 1902 when Hopkins isolated tryptophane, the various amino-acids were isolated and their structure determined, the classical work being that of Emil Fischer. The idea that proteins were formed from the combination of many amino-acids (Bausteine) was due to Kossel.

Naegeli, in 1874, published an important memoir on the starches, and the structure of the hexoses was worked out in a series of masterly researches by Fischer. Fehling's test was introduced in 1848. Many important methods for the estimation of carbohydrates were devised towards the end of the century, one of the most popular being that of Pavy, a Guy's physician.

Chevreul, in 1823, made an important study of animal fats, and the subject was much further advanced by Liebig. The chemistry of the nucleic acids began when Miescher discovered nuclein in spermatozoa and pus cells in 1874. The formula of nucleic acid was found by Schmiedeberg, and in 1889, Horbaczewski synthesised uric acid.

Turning to the second phase, that of quantitative studies ; I have already remarked that Lavoisier was the first to make studies of respiration, but in his time it was thought that oxidation took place in the blood and that carbon and hydrogen were burnt. Liebig showed that it was protein, carbohydrate and fat which were really utilised. The concept of these three basic constituents of foodstuffs had been first introduced by Magendie and Prout, the latter basing his idea on the constituents of milk which he considered a perfect food.

Liebig (1803–73), was the best-known physiological chemist of his time. He invented the meat extract named after him, and did important work on organic chemistry, fermentation and putrefaction. Copies of two of his works are in the Wills Library. Knowing that protein contained nitrogen, he suggested that the nitrogen excretion in the urine might be a criterion of the protein breakdown in the body. Bidder and Schmidt, in 1852, confirmed this quantitatively and showed that almost all the nitrogen in meat eaten by dogs, could be recovered from the urine.

This finding was further used as a method of calculating the protein utilisation by Voit and Pettenkofer. Reynault and Reiset had previously made the first accurate respiration chamber. Voit and Pettenkofer devised a modification of this on a much larger scale. The expenses incurred, which were considerable, were defrayed by King Maximilian II of Bavaria. Using this apparatus, they were able to determine the proportion of each foodstuff normally burnt in the body, and the way in which this ratio changed during various conditions, such as starvation[13] and work. The calculation they devised is essentially the same as that used to-day. They found that the quantity of oxygen needed in metabolism, and the figure of the respiratory quotient (first used by Regnault and Reiset) were dependent on the kind of material utilised. It was also shown that muscular work did not increase protein metabolism (1866).[14] The year before this, two other keen scientists, Fick and Wislicenus, went to the trouble of ascending the Faulhorn, a high mountain in Switzerland, to prove the same thing ; they found the work done represented three times the amount of protein broken down, as evidenced by the urea excretion.

The other important fact found by Voit and Pettenkofer with their apparatus was that metabolism was not proportional to the oxygen supply, but rather that the oxygen was governed by the level of metabolism.[14] This was subsequently confirmed by Pflüger.

Pflüger (1829–1910) was Professor of Physiology at Bonn and did a great deal of work on respiration. He also founded his famous *Archiv fur die gesamte Physiologie*, which is still published, and it is stated that he spent his last days on his death-bed correcting proof-sheets for it.

His chief call for our notice is his theory of protein metabolism. Voit had considered that what he called the circulating protein, *i.e.*, the ingested protein, and not that composing the animal's architecture, was burnt in the cell as such and did not undergo any preliminary change. Pflüger stated that before ingested protein could be burnt it must be built up into protoplasm, which he conceived as a huge labile " biogen " molecule. Unfortunately this idea, which can be likened to Driesch's entelechy theory, became current, and was accepted for some time until disproved by modern biochemical research. Pflüger's ideas were thus mainly vitalistic.

The other important biochemical work of the last century was done by Bernard, of whom we have already spoken. This was the discovery of glycogen and the recognition of its importance in the animal economy.

He first noticed that the blood in the hepatic vein contained more sugar than that in the portal

vein, and this led him to enquire whether sugar was stored in the liver. In 1857, he succeeded in isolating glycogen[15] and showing that it was a condensation compound built up from sugar. This was not only an important step in our knowledge of the function of the liver, but it also removed an artificial barrier existing between animals and plants; it had been previously supposed that plants only could synthesise and animals could only break down chemical substances, but this was a clear exception to the rule and showed that many properties were common to both groups.

Bernard considered that the liver was an organ of internal secretion, producing sugar from glycogen and pouring it into the blood stream when required. This was the first idea of an endocrine gland put forward and leads us to the last section I wish to discuss.

The first observations on two of the endocrine glands were made by Guy's men. Thomas Addison (1793–1860), first described the condition named after him in 1849, subsequently publishing, in 1855, a monograph entitled *On the Constitutional and Local Effects of Disease of the Suprarenal Capsules.* A copy of this is in the Wills Library, and there is also a copy in the glass case in Addison Ward. His description of the condition is classical:—

> Anæmia, general languor and debility, remarkable feebleness of the heart's action, irritability of the stomach and a peculiar change of colour in the skin.

At the time, this was mainly regarded as a scientific curiosity, but in 1856 and 1858, Brown-Séquard, an American physiologist, produced an exaggerated Addison's disease in animals by excision of the suprarenals. Further work on these glands has proved most disappointing; we are still ignorant of the chemical cause of Addison's disease, though we know that the cortex is the responsible part of the organ, the medulla merely producing adrenalin, which was isolated by Takamine in 1901.

The other endocrine gland I wish to speak of is the thyroid. Astley Cooper was the first to excise the thyroid in animals and to observe the toxic effects produced. In 1859 and 1884, Schiff[16] showed the results of thyroidectomy in dogs, and found that grafts, ingestion or injection cured the condition of artificial myxœdema. The Swiss surgeon Kocher, who was apparently ignorant of Schiff's work, carried out complete excisions of the gland in many conditions of goitre, and caused a condition which he called "cachexia strumipriva," due to thyroid lack, of which he published an account in 1883. Horsley, in 1884, produced artificial myxœdema in monkeys, and following on Schiff's work, Murray and Howitz began to treat myxœdema by thyroid therapy, with wonderful results; this work, coupled with that of Schiff, laid the foundation for our knowledge of this gland. In 1820, Jean-Baptiste Dumas had first shown the value of iodine therapy in goitre, and Gley, in 1889, found iodine in the thyroid gland. This suggested that an iodine containing compound might be the substance secreted, and the recent isolation, analysis and synthesis of thyroxin have confirmed this theory.

I have endeavoured, in this slight sketch, to describe to you what I consider the outstanding advances in physiology while it was still finding its feet, and in particular to show how advance was made from the age of speculation in the eighteenth century, through the exact sciences, chemistry and physics, to the period of knowledge based on experiment and research. We see how less than one hundred years could change the outlook and methods from the crudity of Gall to the exactitude of Ferrier, from the rough experiments of Hales to the marvellous technique of Ludwig, and from Lavoisier's pioneer efforts to Voit and Pettenkofer's elaborate researches. The advances that have already been made in the present century confirm the idea that physiology can only continue its advance by explaining what it observes in terms of the physical sciences, and by incorporating new chemical and physico-chemical concepts into its interpretations.

I am indebted to Prof. M. S. Pembrey for pointing out certain mistakes, and to Sir Charles Sherrington and Dr. J. A. Ryle for useful information.

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The "Niggers," Christmas, 1929

CHRISTMAS comes but once a Year, and with it the Niggers come to life again. This year they provided the usual fund of blatant riddles and songs, sung in tune and out of tune, with a variety of performance only equalled by previous Niggers. The costumes were voted to be especially fine, including two niggers (real brick), a brace of buccaneers, Mrs. Gamp, 6 ft. 2 ins., in outsize scarlet frock, with her two large and frolicsome offsprings.

Punctually at 11.30, following persistent snap-shooting of photographers, with and without infernal machines, the Niggers gave tongue in Barnabas; three O.P.O.'s, for the time stout limbs of law, having stridently whistled in vain for their lost comrade, gave vent to a rollicking song entitled, "But I do say so."

Following an amusing, if tuneless fifteen minutes in Queen, we were treated to a melodious twenty in Mary, finishing with a reminant verse from R. Glanvill:—

Who is this man called Hurst?
This cunning man called Hurst,
He's always solving mystery,
Or when there's none, he'll make one be;
You see him here on 'Mbined Round Day,
He'll talk your stomach and heart away,
That's why I ask the same as I did at the first,
Who is this man called Hurst?

The Clinicals in Clinical failed to "Breakaway," but sticking together found a melodious sextet. Across the way, the rafters of Bright rang to the tuneful notes of E. T. Conybeare in a song of few words but many syllables, followed by a further uprising of Clinicals and another assertion of authority by the O.P.O.'s. A few steps higher yet brought light refreshment.

Following dinner, S. B. McClean, through clenched teeth, rhapsodised on the "Bootlegger's Daughter," to the accompaniment of a banjolele. Mr. Addison and J. C. Heather exhorted the audience to awaken from their post-prandial slumbers—"Wake up Chill'un, wake up"; this was ably accomplished by S. Shone in an "almost gentlemanly" song.

The pathos of Dorcas was followed by a spirited trio of songs in Martha, from the throats of W. A. G. Jones, who proved the noteworthy exception to the rule of tuneful Welshmen, but did not seem to mind two hoots, the President and "Peter," who sang not of his native land down Alabama way but "If Love were All" (Bitter Sweet) with this masterly parody:—

Should you ever come to stumble,
Or to rumble inside,
Or to a surgeon need to go, Sir,
Lest woe, Sir, betide;
Seek our advice,
Come up to Guy's;
Whether you're well or ill
We'll make you better still,
You mustn't sleep
When dawn comes creep-
Ing; or if a student you should be, Sir,
Come with me, Sir,
And I'll show you every surgeon's style,
It really should be worth your while; for—

Chorus

I believe in learning what I can
In trying to keep up with chaffing Mr. Hughes,
Heigh-ho—he beats them all, and ever so will he.
And I believe that if you watch D.-C.
You'll soon give up your truss
And come in under me;
Although, when shadows fall, I think if Ogilvie
Puts on his gum-boots and his overall,
Wields his road-breaker with such skill,
You go and watch him unless after all
Surgery makes you ill;
And I believe that Bromley's very good
And Slecky's best of all when he's in the mood,
Heigh-ho—they're great men all.

The Niggers, with their backs to the wall of Out-patients, fought their usual losing fight with the brazen voices of the young Borough natives.

Following this, a buccaneer, one eye shaded, was seen to lure a genuine Robert to wet his whistle up aloft on the Throat Floor.

Passing with muffled drums by devious routes to the topmost floor of the surgical block, the Baby H.P. tried his hand at rearing garden produce, making no mention, however, of artificial feeding.

The buccaneer was again at sea, mistaking an extension, up which grew sweet-peas, for an ornamental yardarm from which he tried to swing.

Reaching Job, the President again toed the line, got away with it, but failed to "get off"—"Let's do it," he re-iterated, "Let's fall in love," sentiment was indeed rife at this period.

Up to the very end the whole troupe remained valiant in their efforts at further song, but more than one larynx had begun to wear. W. A. G.

Pitt's priceless parody was produced in Astley Cooper to the tune of "You're the Cream in my Coffee":—

Bobbie tells strange tales,
Each day a new tale,
You've heard him, too, say:
"This way is my own way":—

I did a grid on a *poor man*,
Partial gastrectomy too,
Did a splenectomy,
And nephrectomy,
Cholecystectomy too.
He pins his faith to the grid-iron
No matter what he's to do;
This will always be, of necessity,
The very best for you.

THE NIGGERS IN QUEEN *By courtesy of The Daily Chronicle*

Jones in Cornelius brought the house down with this conundrum:—

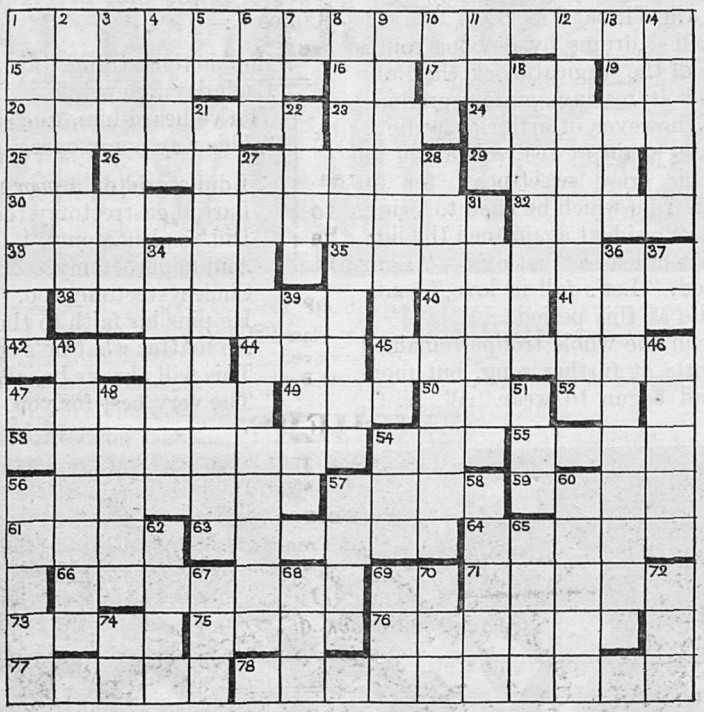
"Can you tell me, Massa Johnson, why the nurses are not unlike the fire-brigades?"

"No Massa Jones, etc."

"Well, Massa Johnson, on occasion, both show long lengths of hose with many ladders."

Throughout C. De Gruchy performed with amazing facility and never-flagging enthusiasm, accomplishing feats of transposition to come within measurable distance of the key attempted by the singer. Everyone is to be congratulated on the success of the day, made easier by the ever-ready appreciation of the faithful audience.

A Medical Crossword



CLUES ACROSS.

1. Published every fortnight (two words).
15. An abnormal distension of a part.
16. That is (reversed).
17. Disappeared.
19. Resident Medical Officer.
20. Anything producing a chemical reaction.
23. Prefix N for an indurated swelling on a bone.
24. A dwarf.
25. The yellow spot of the retina (abbrev.).
26. A lining membrane of the cerebral ventricles (transposed).
29. The ultimate unit of an element.
30. The act of expelling.
32. Without speech (transposed).
33. An enveloping layer.
35. Innate.
38. Two large veins.
40. Wrath (Latin).
41. Often *volatile*.
42. Encourage.
44. If necessary.
45. Facial expression.
47. Supposed to bring you luck.
49. It is.
50. Large.
52. Thus.
53. Puddles and motor car wheels produce these.
54. Useful to complete a bandage.
55. Limbs.
56. A subdivision of a genus.
57. Gains the victory.
59. Merriment.
61. Look.
63. Feature of a voluntary muscle.
64. Very heavy at this season.
66. Upon the pia mater.
69. An element (chemical symbol).
71. To make void.
73. Medical qualification.
75. Turns blue litmus red.
76. Concurs.
77. Rigid.
78. A cheerful spot in Guy's (two words).

CLUES DOWN.

1. Air-tight.
2. One of the elements of a compound eye.
3. Inherent force.
4. This puzzle appears on one.
5. State of being.
6. A metal.
7. Of each.
8. A disease of the skull bones.
9. A symptom.
10. Necessary detail ascertained from a patient.
11. Girdle.
12. Fixation of a joint.
13. Opposed in the human hand.
14. Associated with salts and a school.
18. Unaffected.
21. A discolouration of the skin.
22. Secretion of the lachrymal gland.
27. A boon to patients.
28. An alkaloid.
31. A cardiac glucoside.
34. An emetic and expectorant.
36. A monster with small limbs.
37. An element (chemical symbol).
39. Very necessary for a case report.
43. Guy's patients are this after treatment.
46. Products of combustion.
47. A surgical degree.
48. Perhaps the best medicine of all.
51. An anæsthetist's instrument.
54. We all get this sometimes.
56. Perceived by the nose.
57. Disorderly.
58. Stinging pain.
60. A line.
62. A pair of pressure forceps does this.
65. Afresh.
67. A possible ancestor (transposed).
68. Necessary to human life.
69. A student diversion not always smiled upon.
70. An expression of disgust.
72. Cover.
74. At night.

(N.B.—All medical words used are to be found in Gould's Pocket Medical Dictionary, 8th edition, 1920.)

Lambai Lampada

(With apologies to Henry Newbolt)

THERE'S a breathless hush in the lab to-night,
A band to make and a test to pass,
A dripping sweat and shocking light,
An hour to go ; that's all, alas !
And it's not for the sake of having a gloat,
Or the selfish hope of no more pain.
The mechanic's hand on his shoulder smote,
" Hurry up ! hurry up ! or do it again "

The sand of investment is sodden wet,
Wet with the wax of " four fronts " that broke,
The bellows jammed and you've lost your head
And everyone's blinded with dust and smoke.
The river of solder has brimmed its banks
The plate's all cracked through too strong a flame,
The voice of D-w-r staggers the ranks,
" Hurry up ! hurry up ! or do it again."

And this is the toil that year by year
While in the place the lab is set
Everyone of its sons must bear
And none that bears it can forget.
This they all with a joyful mind
Bear through the lab, like a bunsen flame
And " passing " fling to the chaps behind,
" Hurry up ! hurry up ! or do it again."

ANNUS SECUNDUS.

Nursing News

THE following nurses were successful in the October Final Examination for the State Register :—

I. G. Barratt, C. F. S. Bell, C. E. R. Brampton, F. Cox, P. M. Denny, W. M. W. Duggleby, E. M. O. Eurich, H. D. Evans, M. Everitt, A. Falwasser, E. Hallahan, S. M. Hesselgrave, B. Lydan, E. Monkman, H. M. New, E. A. Opie, A. H. Pilkington, H. Pridie, R. C. Shackles, J. D. Thompson, B. Weller.

Affiliated Hospitals (Guy's and Cancer Hospital, Fulham Road) :—

C. Dobbs, D. Fellows.

DIPLOMA OF NURSING

(University of London).

We offer our congratulations to Miss D. L. Holland (Sister-in-Charge of the Preliminary Training School), Miss F. Taylor (Office Sister), and Miss G. L. Hemming (Guy's, 1922–25), on gaining the highest academic distinction in nursing in England.

Only 11 candidates were successful in passing the Examinations this year, and we are proud to be able to number three Guy's nurses among them.

Correspondence

Mr. Fagge's Lecture

To the Editor of the GAZETTE.

SIR,—It was with great interest, not to say with some amusement also, that I observed in a recent issue of the GAZETTE, a remark of Mr. Fagge's in his Clinical Lecture " On Some Principles underlying Treatment of Fractures of the Lower Limb." The remark in question reads as follows : " The ideal way of reducing deformity is to take the patient into the X-ray room, give a general anæsthetic, see what one is doing, reduce the deformity, and immediately correct one's opinion by screening. It is not always easy to do this ; it is a counsel of perfection which I have preached for several years, and which I intend to go on preaching, *in the hope that by the time I am very old I may find one person in one hospital in the British Isles doing it* ! " (The italics are mine.)

Mr. Fagge may rest content that even in his youth his " counsel of perfection " has already borne fruit ; this is the method of correcting deformity practised as a routine by some of my colleagues and myself at the local hospital, on the staff of which I have the honour of being a medical officer.

I suspect Mr. Fagge of being intentionally provocative in delivering himself of the remark which I have quoted ; so he will have the satisfaction of knowing that one at least of his old house-surgeons has " bitten " !

Yours, etc.,

Late FAGGE H.S.

Presentation of John Wesley's Book

To the Editor of the GAZETTE.

SIR,—I read, with some interest, in a recent GAZETTE, the notice of the presentation by an "Old Guy's Man," the volume written by John Wesley about 1750, entitled "Primitive Physic or an Easy and Natural Method of Curing Most Diseases." I am sorry I did not know before that Guy's would have appreciated such a volume, or I would have gladly presented a similar volume which I have had in my possession since I was about ten years of age—about 70 years ago. I shall be most delighted to present my volume to any Medical Institute or Hospital, if either would care to have it.

Yours, etc.,

EDWARD LYNN,

202, Herbert Road, Guy's, 1878.
Woolwich Common, S.E.18.

Rugby Fixtures

To the Editor of the GAZETTE

SIR,—I think it would be of interest to Guy's men, to remind them of the interesting list of Rugby fixtures which have been arranged to take place early in the New Year.

They are as follows :—

Jan. 4 (Sat.)	Old Merchant Taylors.
Jan. 11 (Sat.)	London Scottish.
Jan. 18 (Sat.)	Birkenhead Park.
Jan. 25 (Sat.)	Gloucester.
Feb. 1 (Sat.)	Rosslyn Park.
Feb. 8 (Sat.)	Aberavon.
Feb. 12 (Wed.)	Cambridge University.
Feb. 15 (Sat.)	Old Blues.
Feb. 22 (Sat.)	London Irish.
Mar. 29 (Sat.)	Bristol.

All the above matches take place on the Clubs' Union Ground at Honor Oak Park, and with the team playing so well at the present time, there should be some fine games.

Yours, etc.,

J. H. E. WINSTON.

Medical School,
Guy's Hospital.

Rowing Club

To the Editor of the GAZETTE

SIR,—May the Rowing Club bring the following information to its past and present members by means of the GAZETTE ?

The Clubs' Union pay the Annual Subscription of each rowing member of the Union to the London Rowing Club, on the condition that such members pay their Entrance Fee. This makes them full members of the London Rowing Club and they must abide by the London R.C. Rules and make themselves acquainted with these rules.

When members of the Rowing Club leave the Hospital or give up rowing, during their time at the Hospital, they cannot expect the Clubs' Union to continue with their subscriptions.

Having received a letter, from the London Rowing Club, on this matter, we appeal to those members who have neglected to send in their resignations to get into touch with the Secretary, London Rowing Club : by doing this by January 31st, 1930, a lot of unnecessary work and difficulty will be obviated.

Yours, etc.,

G. G. ELLIS, Capt. G.H.R.C.
R. J. WHEATLEY,

Guy's Hospital, S.E.1. Hon. Sec. G.H.R.C.

Sport

Rugby

Guy's v. United Services

AT Honor Oak Park, on Wednesday, December 11th, Guy's, fresh from their triumph at Birkenhead Park, entertained the United Services (Portsmouth) and gained a handsome victory by four goals (one penalty) and two tries (24 points) to two tries (6 points).

The game was played in a gale of wind, but fortunately, the rain held off, and in spite of the heavy ground, most of the play was excellent.

The form of the Guy's team, as a whole, was a revelation to those who had not seen their display at Liverpool.

Although the packs were evenly matched, the Hospital forwards heeled the ball more frequently, and Howell, who worked very hard at the base of the scrum, was constantly feeding W. H. Lewis, who took full advantage of every opportunity that came his way.

It would be difficult to single out any individual for honours as the team work was admirable throughout the game, but one cannot pass without

referring to the fine display given by Wailer, W. H. Lewis and Giesen.

The former, apart from his success as a goal-kicker, showed himself a cool and resourceful full-back. Giesen, at left-centre, proved himself a clever, elusive runner who made many excellent openings, whilst Windsor Lewis reproduced his old form and was constantly cutting through and setting his threes in action at the right moment.

Popplewell was a splendid leader of the forwards and he crowned a good afternoon's work by scoring a good try, when acting as a three-quarter in place of Giesen who was temporarily injured.

Guy's had the wind behind them in the first half, and pressed from the start. After eight minutes, and despite the strong resistance put up by the visitors, W. H. Lewis receiving from Howell, broke through the centre and ran in for an unconverted try.

A little later the Services were penalised near the half-way line and Wailer kicked a remarkably good penalty goal.

Following this and after a good round of passing between the three's in which Giesen was prominent, Lewis scored another try which Wailer converted. Further success came just before the interval when Robinson showed a fine turn of speed and registered an excellent try in the corner which Wailer again converted from near the touch line.

Faced with a heavy wind in the second half, the Guy's backs played well in spite of the handicap, and continuing a movement started in our 25, the three's took part in some remarkably good passing.

Giesen broke through and sent Johnson away on a 30 yards run, and dodging all opposition the latter scored an excellent try behind the posts, but to everybody's surprise Wailer missed the kick at goal.

This reverse put the Services on their mettle and following some good passing between Sladen and Ford, Stevens scored an unconverted try.

Guy's again returned to the attack, and Popplewell, who had now taken Giesen's place (the latter being off the field injured), receiving the ball outside the Services' twenty-five, ran with excellent pace and scored a good try which Wailer converted—the ball hitting the post before going over.

Near the end a brief attack by the Services, followed by some accurate passing between Sladen, Miers and Ford, enabled Stevens to score another try for the visitors.

Team—L. Wailer; T. G. Robinson, I. K. Thomas, J. Giesen, A. G. Johnson; W. H. Lewis, J. Howell; J. R. F. Popplewell, C. D. Malone, R. A. P. Hogbin, G. F. Lashmore, T. Morgan, D. S. Clogg, J. S. Batchelor, K. P. Smith.

Guy's v. Aberavon

ON Saturday, December 14th, Guy's journeyed to Aberavon and accomplished an excellent performance in winning by three tries (9 points) to two tries (6 points).

It was by far and away the Hospital's best achievement this year and incidently the first occasion that a Guy's team has succeeded in winning there.

Considering the state of the ground, which was little less than a sea of mud, the success of Guy's was all the more meritorious as they played capital football throughout and their team work was magnificent.

The forwards again played a great game, and, in spite of the fact that Clogg was injured in the first half and took no further part in the game, they more than held their own with their formidable opponents.

There was not a weak link in the chain of defence, and the backs, who were far more constructive in the attack, gave a dazzling display of swift and accurate passing.

Howell, who was opposed to Tal Harris, the Welsh International scrum half, came out of the ordeal with flying colours and proved an admirable partner to Windsor Lewis who again had a big share in the success of his side.

Johnson, since his introduction to the left wing a month ago, has improved immensely, and, if he can only maintain the form shown in recent matches, he should go far. His understanding with Giesen was perfect, and the try which Johnson scored after Giesen had created the opening will be remembered by the spectators of Aberavons for many days. Thomas also played a fine game, and his elusive running and swerving proved very deceptive to the home side's backs.

In the opening minutes of the game, Aberavon attacked furiously and they had a fine chance of opening the scoring when James cross-kicked to Foley. The latter set his backs moving, but Phillips over-ran the ball when he had a clear run in.

Popplewell relieved the danger and Guy's at once counter-attacked. It looked very dangerous for Aberavon, but James did well in clearing from a determined rush by our forwards.

Soon afterwards, a fine passing movement, initiated by W. H. Lewis, ended when Thomas misjudged the touch line and kicked out of bounds.

This was followed by a strong run by Robinson who gained over 50 yards of ground before he was tackled by James.

Aberavon made another temporary excursion to the Hospital's 25, and Harris nearly wriggled his way through, but Thomas made a fine tackle and cleared his lines.

A ding-dong struggle followed, and some brilliant football was seen on both sides. Eventually, the Guy's three's participated in an excellent round of passing in their own half, and Giesen cutting through the defence in brilliant style sent the ball to Johnson. The latter who had to run at least 40 yards made full use of his speed and scored a magnificent try which was not converted.

Guy's followed up this success with another try by K. P. Smith who touched down after some stirling work and good play by the forwards.

Just before the interval, Aberavon reduced the deficit when Foley sent Phillips over in the corner for an unconverted try.

Immediately on resuming after half-time, Guy's set a hot pace and carried the ball to their opponents' 25, but the ball was kicked out of bounds.

Aberavon retaliated immediately, and Griffiths after a fine individual run was only brought down a few yards from the line.

Within a few minutes, Aberavon succeeded in making the scores level when Griffiths accepted a pass from Selby, and after drawing his man, sent James in for a try near the corner flag.

With the scores level the excitement was now intense, and despite the churned up state of the ground the football was first-class.

A great effort by the Guy's pack nearly led to a score, when Popplewell, Smith and Malone took the ball to within five yards of the line, but Harris cleverly cleared.

Several good rounds of passing took place on both sides, but the tackling was very accurate and sure. Just when everybody expected a draw to be the final result and in the last minute of the game, Johnson made a great opening and Lashmore who was well up accepted the final pass and crossed the line for the winning try.

It was a magnificent game and greatly appreciated by the spectators present, who gave the Guy's side an ovation when they retired from the ground.

Team—L. Wailer; T. G. Robinson, I. K. Thomas, J. E. Giesen, A. G. Johnson; Windsor H. Lewis, J. Howell; J. R. F. Popplewell, C. D. Malone, R. A. P. Hogbin, T. Morgan, J. S. Batchelor, D. S. Clogg, G. F. Lashmore, K. P. Smith.

Hockey

Guy's v. R.M.C., Sandhurst

GUY'S played the R.M.C. at Camberley on Wednesday, December 11th. Both sides were well represented, and the R.M.C. were winners of a very evenly contested game by the odd goal in five (3—2).

The Sandhurst ground is an ideal hockey ground, and in spite of recent heavy rain was in excellent condition. Playing under such circumstances, Guy's produced their best form so far this season. Sandhurst attacked from the start and Guy's were defending most of the first half. Owing to our sound defence Sandhurst were prevented from scoring for 20 minutes. They soon followed their first goal with a second, but in the movement preceding this goal G. N. Carrell was hit across the knee, and his knee being cut open was forced to retire. Despite this handicap, Guy's retaliated through G. J. Clarke, thus bringing the score to 1–2. There was no further scoring before the interval.

Soon after the restart Carrell returned with his knee heavily plastered. Though severely handicapped he was a rock in defence, and repeatedly broke up dangerous movements by the Sandhurst forwards. Guy's were now pressing hard, and equalised through H. O. Lyne, who scored with an excellent flick shot close-in. Soon after Lyne was twice unfortunate, one shot clearing the goal, and another being just wide. Sandhurst were more successful, however, and scored again five minutes before the end; to this Guy's were unable to reply, leaving Sandhurst the winner by 3 goals to 2.

Guy's played encouragingly. The inside forwards in particular were combining well, and appear to be satisfactorily positioned at last.

At outside-right E. T. Conybeare played very well, and at right-half T. E. Mitchell put up a sound game. Our defence was excellent both in tackling and clearing, and special praise in this is due to G. N. Carrell.

Team—J. B. Schofield; G. N. Carrell, F. R. Hayward; T. F. Todd, R. A. Sykes, T. E. Mitchell; R. O. F. Tilleke, F. E. Camps, H. O. Lyne (Capt.), G. J. Clarke, E. T. Conybeare.

Boxing

THE Hospital sent a team to compete in the Universities and Hospitals Boxing Championships, held in the Town Hall at Oxford, for the first time for several years. Unfortunately, out of the five people chosen to box, only two were able to compete, for our Secretary had contracted tonsilitis and our bantam was unable to get down to weight, while the middle-weight, through some misunderstanding, arrived too late to weigh in.

Thus only two weights were represented, Wong being the feather-weight and Johnson the light-weight. Wong, after an excellent fight, gained the verdict over Gibbs of Bristol University, and thus qualified to meet Merriss, of Cardiff University in the semi-final. After a very hard fight, in which Wong almost knocked his man out, Merris was given the verdict.

Johnson, light-weight, lost to Pranger of London University after a strenuous fight. We would like to thank the Guy's men who came and offered encouragement which was very much appreciated.

Hospital Information, etc.

GEORGE HERBERT HUNT TRAVELLING SCHOLARSHIP, 1930.

(Extract from *Oxford University Gazette*, 4th December, 1929.)

This Scholarship is awarded without examination every second year to a graduate in Medicine of the University (of either sex) who has not exceeded five years from the date of passing the final examination for the Degree of Bachelor of Medicine.

The Scholarship is of the value of £100, or such smaller sum as two years of the income of the Fund provides.

Candidates are required to submit with their applications a statement of their academic record together with testimonials (five copies) and an undertaking that if elected they will travel abroad for a period of not less than three months for the purpose of clinical study or research in Medicine. In making the award, a preference is given to such candidates as express the intention of engaging in the practice of their profession either as surgeons or general practitioners.

The Scholar is required to complete his period of travel within twelve months from his election, and within a reasonable period thereafter to submit to the Dean of the School of Medicine for the approval of the Electors a detailed report of his tenure of the Scholarship.

Payment of nine-tenths of the Scholarship is made to the Scholar on his signifying his readiness to proceed abroad, and the remaining one-tenth on the approval of the Electors.

The next election will be made in April, 1930.

Candidates must send their applications to the Dean of the School of Medicine, University Museum, Oxford, on or before Tuesday, 11th February, 1930.

(For the Electors),
E. W. AINLEY WALKER,
Secretary.

Guy's Hospital,
11th December, 1929.

T. B. JOHNSTON,
Dean.

IMPORTANT ONTICE.

THE attention of all Medical Students is drawn to the following alterations in the Regulations for the Conjoint Diplomas which will take effect after July 31st, 1930.

Concerning Section II of the First Examination (Pharmacology and Materia Medica).

1. The subjects of this Section of the Examination will be Pharmacology and Materia Medica.

2. The course of instruction in Practical Pharmacy will not be required for admission to this section of the Examination, but will be required before admission to any part of the Final Examination.

3. Candidates may enter for this Section of the Examination at any time before admission to any part of the Final Examination, PROVIDED THAT THE COURSES REQUIRED FOR ADMISSION TO SECTION I (Anatomy and Physiology) HAVE BEEN COMPLETED.

4. The following paragraph will be substituted for the last part of Clause IV (2) of the Syllabus (on p. 16 of the Regulations), viz. :—

"Candidates will be required to show a competent knowledge of the pharmacological action and doses of the drugs in Schedule B. Pharmacy and pharmaceutical details as to the modes of preparation of drugs will form no part of the Examination."

Concerning Section I of the Final Examination (Pathology and Bacteriology).

1. Paragraph XVII will be amended so as to provide that Section I of this Examination cannot be taken after all the Parts of Section II have been passed, but must be taken at the latest concurrently with the last part of Section II. Nevertheless, candidates who take Section I with a Part of Section II, after having passed the other two Parts of Section II, will, in the event of failure, be admitted to re-examination in Section I alone.

2. No exemption will be granted from Section I of this Examination under any circumstances, and Paragraph XXII will be deleted.

T. B. JOHNSTON, *Dean.*

Guy's Hospital,
London, S.E.1.

IMPORTANT NOTICE.

The attention of all Students who are studying for the Pre-Medical Examination is drawn to the following changes in the Regulations :—

1. After July 31st, 1930, the Pre-Medical Examination will consist of two Parts, viz. :—Part I. (*a*) Chemistry ; (*b*) Physics ; Part II. Elementary Biology. Candidates who have not passed the Pre-Medical Examination before July 31st, 1930, will be required to pass in both Parts of the Examination.

2. Candidates will be admissible to Part II of the Pre-Medical Examination either before, concurrently with, or after Part I.

3. In the case of Students studying for the Conjoint Diplomas, the study of Anatomy and Physiology will not be recognised until Part I of the Pre-Medical Examination has been passed, and not more than two terms of such study will be recognised before Part II of the Pre-Medical Examination has been passed.

4. In the case of Students studying for the L.D.S. Diploma, no credit will be allowed for the study of any subject of the professional curriculum—apart from two terms of instruction in Dental Mechanics, before Part II of the Pre-Medical Examination is passed.

5. Part II of the Pre-Medical Examination will consist of a written paper of three hours' duration and a *viva voce* examination of fifteen minutes' duration.

6. Candidates will be admissible to Part II of the Pre-Medical Examination under conditions similar to those pertaining to admission to Part I of the Examination, *i.e.*, "Candidates must bring with them to the *Viva Voce* Examination in Biology notebooks which contain a record of their own practical work, signed by their Teachers."

7. The Fee for admission and re-admission to Part II of the Pre-Medical Examination will be one guinea (£1 1s. 0d.).

T. B. JOHNSTON, *Dean.*

Guy's Hospital,
London, S.E.1.
7th December, 1929.

Speciality

Stainless Steel in Dentistry

MANY articles are now being made of stainless steel for dental purposes and there appears to be no limit to its uses. Messrs. S. Berendsen, Ltd., of 10, Philpot Lane, who are Messrs. Krupps' Agents, have some very interesting lines in their V2A Steel.

Some of the instruments are of a particularly interesting nature, as apart from their being impervious to any acid or sterilizing fluid, they are unbreakable and have an edge strength hitherto unobtainable and not generally associated with stainless steel. Wire, spring, lingual bars, cusps, and many other sundries are made in steel now and, while there is no discolouration upon vulcanization, in appearance the resemblance to platinum is very great.

For orthodontic work there is no doubt of its usefulness.

Many dentists have seen the plate work at the various exhibitions, and we are given to understand that a laboratory for the making of these dentures will soon be opening in London where plates will be cast or struck to any model. They are very much stronger and thinner than plates made of gold and its weight would be about one-third that of gold, and against vulcanite it is incomparable.

Pass List

UNIVERSITY OF LONDON

3RD M.B., B.S. EXAMINATION

November, 1929

Honours

*C. R. E. Freezer.

*Distinguished in Pathology.

Pass

H. W. Applin.
C. N. Cohen.
F. W. Gilbert.
G. M. Housden.
K. E. Lane.
T. F. Mackenzie.
N. E. Pitt, B.Sc.
W. P. Roe.
H. Selby.
S. Shone.
R. M. Williams.

Group I

H. B. A. R. Densham, B.Sc.
D. T. Jones.
H. G. McGregor.
C. E. H. Maycraft.
C. M. Ockwell.
G. F. Peters.

UNIVERSITY OF CAMBRIDGE

Bachelor of Surgery

C. G. Townsend.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

Final F.R.C.S.

A. S. Gough.
H. L. Peake.

UNIVERSITY OF LONDON

2ND EXAMINATION IN DENTAL SURGERY

December, 1929

*A. E. Fisher.
†G. B. Hunter.

*Awarded mark of distinction in Anatomy.

†Awarded mark of Distinction in Anatomy, Special Anatomy and Histology, and Pharmacology.

3RD EXAMINATION IN DENTAL SURGERY

December, 1929

T. W. E. Pugh.

Papers by Guy's Men

R. P. Rowlands, M.S., F.R.C.S. Bradshaw Lecture on the Surgery of the Gall Bladder and Bile-ducts, *Lancet*, 1929, ii, 1075.

Alan H. Todd, M.S., F.R.C.S. Hereditary Contracture of the Little Fingers (Kamptodactyly), *Lancet*, 1929, ii, 1088.

A. H. Douthwaite, M.D., F.R.C.P. Pleurisy, *Clin. Jour.*, 1929, lviii, 541.

O. Gayer Morgan, M.Ch., F.R.C.S. Calcareous Deposit on Back of Cornea, *Proc. Roy. Soc. Med.*, 1929, xxiii, 45, Sect. Ophthal., 3.

G. B. Dowling, M.D., F.R.C.P. Epidermal Infections with Yeast-like Organisms, *Brit. Med. Jour.*, 1929, ii, 947.

G. B. Dowling, M.R.C.P. A Simple Method of Treating Cavernous Nævia, *Lancet*, 1929, ii, 1251.

C. Worster-Drought, M.D., and I. H. Allen. Huntingdon's Chorea, *Brit. Med. Jour.*, 1929, ii, 1149.

A. H. G. Burton, M.D., D.P.M. Health Aspects of the Poor Law Reform Proposals, *Public Health*, 1928, April.

—— Relapses in Scarlet Fever, *Lancet*, 1928, i, May 6th.

—— A Severe Relapse in a Case of Diphtheria, *Ibid.*, 1928, December 8th.

—— Scarlet Fever: Some Aspects of Bacteriology and Serum Treatment, *Lancet*, 1929, September.

—— Foreign Bodies and Nasal Carriers of Diphtheria, *Lancet*, 1929, November.

C. Worster-Drought, M.R.C.P., and I. M. Allen, M.R.C.P. Thrombosis of the Superior Cerebellar Artery, *Lancet*, 1929, ii, 1137.

A. H. Douthwaite, M.D., F.R.C.P. Aspects of Chronic Arthritis, *Practitioner*, 1929, cxxii, 331.

L. J. Witts, M.D., M.R.C.P. Diseases of the Liver and Spleen, *Clin. Jour.*, 1929, lviii, 565, 577.

A. A. Osman, M.R.C.P. Asthma in Children: Sugar in Prevention and Treatment, with note on Infantile Eczema, *Lancet*, 1929, ii, 1187.

Change of Address

Wm. A. Carden, Korea, Trappes Street, Worcester, C.P.

N. A. H. Barlow, Surg.-Lieut. Commander R.N. to R.N. Barracks, Chatham.

Appointment

N. A. H. Barlow, Surg.-Lieut. Commander R.N., promoted to Surgeon Commander, October 25th, 1929.

Births

ATKINSON—On November 28th, 1929, to Dr. and Mrs. Hewitt Atkinson, 71, Grosvenor Street, W.1—a son.

OWEN—On December 2nd, 1929, to Janet, wife of R. D. Owen, F.R.C.P., 24, Park Place, Cardiff—a daughter.

Marriage

CRAIG—VAN DER PANT.—On November 26th, 1929, at Port Said, Norman Balfour, youngest son of the late J. Alexander Craig of Liverpool, to Sylvia, elder daughter of Mrs. and the late Francis H. M. Van der Pant, of 5, Devonshire Place, W.1.

Death

GALABIN—On November 30th, 1929, at Tapley, Bishopsteington, Devon, Harriett Mignon, widow of Alfred Lewis Galabin, M.A., M.D. Cantab., of Guy's Hospital and Wimpole Street, dearly loved mother of Mrs. Harold Michelmore in her 85th year.

L.F.S.

EDS. {E. T. C. / J. B. B.